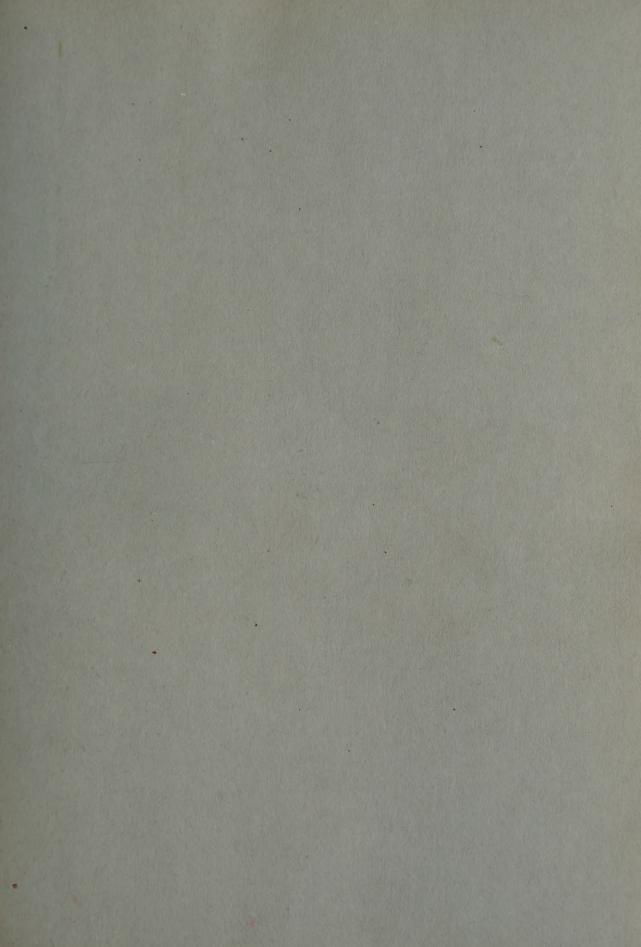
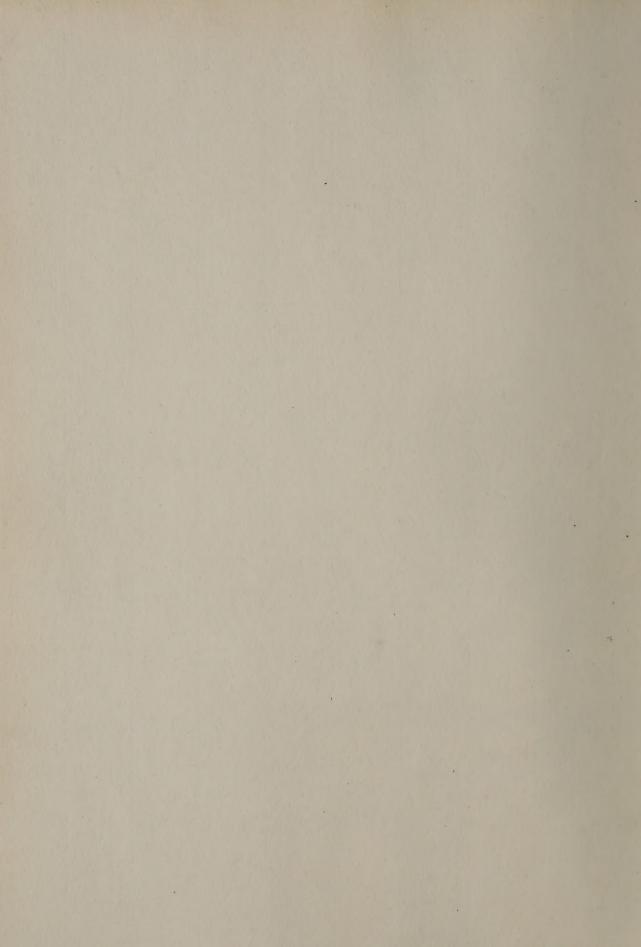


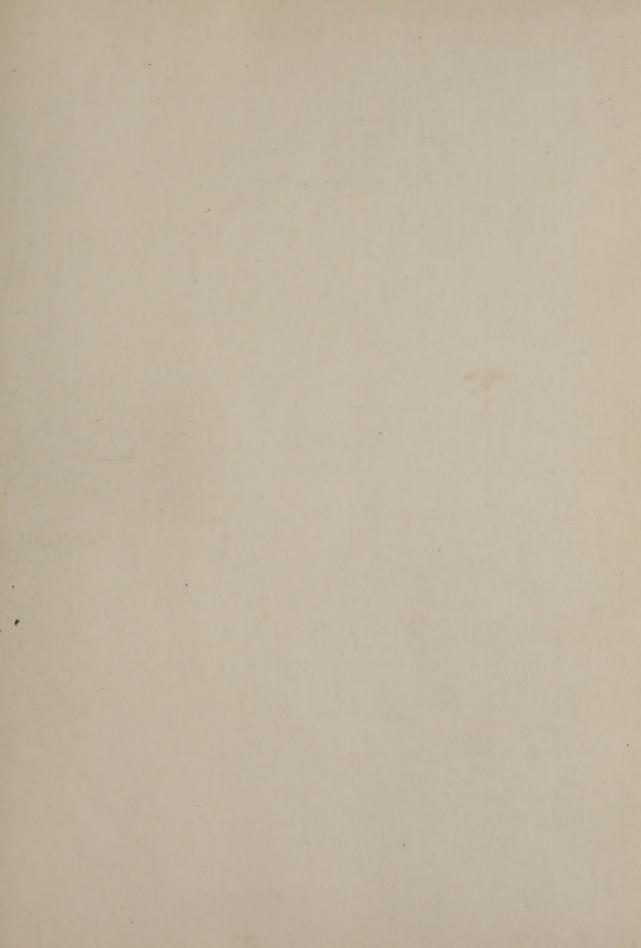
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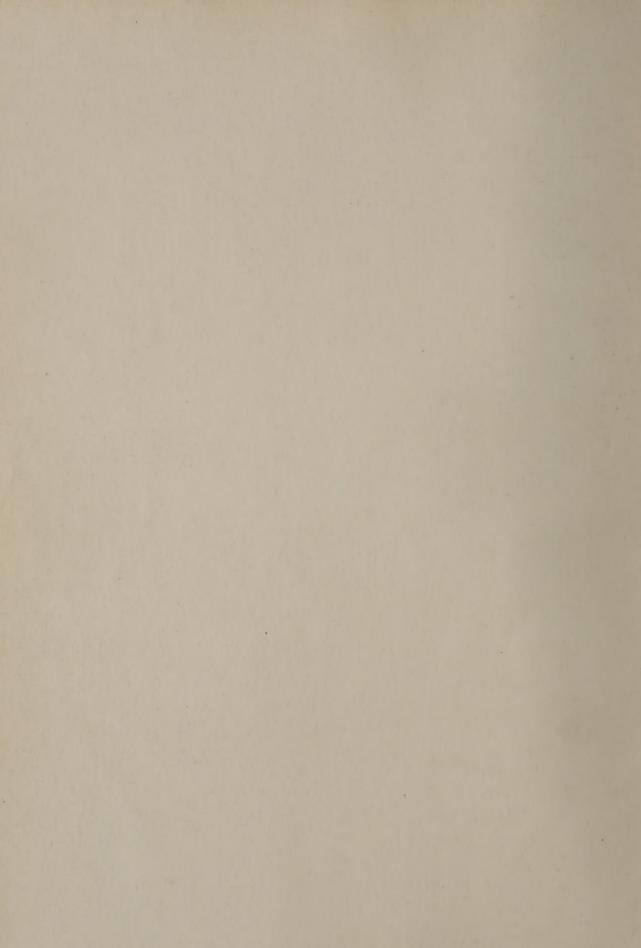
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FRENCH ARCHITECTURE From XI to XVI Centuries

Ву

EUGENE EMANUEL VIOLLET-LE-DUC Government Architect Inspector General of Diocesan Edifices

> Volume VI From Gable to Guvrier

Translated by N. Clifford Ricker. D. Arch Emeritus Professor of Architecture UNIVERSITY OF ILLINOIS

Urbana. Ill.

1919

April 64818. Pediment.

A carpebbry been applied to masonry. There is still an association of carpenters to which is given the name of "Gavands" and in Berry a man with less bowed outward is called a "gavands. The dable was originally the continuation at their apex of two inclined timbers. The dable of a dormer comprises two rafters fastened to the end ofstridge, their feet resting on the ends of two plates. (1).

We have seen elsewhere (Arts. cathedrale; Construction), t of end to beginning of beginning of the 12 the 12 the nismon layor end to seitio end ni flinder erew ered, do of the north of France, all the cathedrals and a great number -per secifibe sand animined on database. Although control of ources were abundant, when they reached the level of the high vanits, money came to be lacking, or at least it could only be volume of vasseoen saw it ment .vivols erom dous befoelloo temporary means for covering, that permitted the sheltering of the constructions completed, as much to avoid injuries caused by rain and snow as to devote these edilices to worshio. Fest des in very large monneants, for example like the cathedral of Amison, it would have been imprudent to erect the piers. the great windows, the well and eave well surmounting them. to set the upper carpentry on these isolated walls, or rather on this scallolding, without turning the drast vagita and the sing to variety and to the stand and the stand and the stand and the standard the s no muirdifiupe to medaya s to statence vine softine to bath opposed pressures, whose mechanism has been sufficiently expplained in Art. Construction. Thus it was necessary to build the high vaults in parts, to assit the sathering of the resources required to erect the eave walls of the freat carpentry. Then was temporarily covered each portion of the completed v vault by the simplest and obeanest method: over the side arch es were erected wooden dables with apexes on a level and a ri ridge placed on posts on the axis of the main roof. These fables were consocted with that ridge, the rafters were set, battens and tiles were placed over the whole. (2: see sketch A) .. The constructors took care to reserve at the imposts of the vaults basins endin derfoyles casting the water directly on the ground, as at the S. Chapelle of Paris, or into channels of the flying buttresses as at Notre Dame of Amiens. (Sketch GARLE. Gable. Pediment.

A carpentry term applied to masonry. There is still an association of carpenters to which is given the name of "Gavauds," and in Berry a man with legs bowed outward is called a "gavand," The gable was originally the continuation at their apex of t two inclined timbers. The gable of a dormer comprises two rafters fastened to the end of a ridge, their feet resting on the ends of two plates. (1).

We have seen elsewhere (Arts. gathedrale; Construction). t that at the end of the 11 th century and beginning of the 12 th, there were rebuilt in the cities of the royal domain and of the north of France, all the cathedrals and a great number of parish churches. Although on beginning these edifices resources were abundant, when they reached the level of the high vaults, money came to be lacking, or at least it could only be collected much more slowly. Then it was necessary to employ temporary means for covering, that permitted the sheltering of the constructions completed, as much to avoid injuries caused by rain and snow as to devote these edifices to worship. Pesides in very large monuments, for example like the cathedral of Amiens, it would have been imprudent to erect the piers. the great windows, the wall and eave wall surmounting them, to set the upper carpentry on these isolated walls, or rather on this scaffolding, without turning the great vaults and the flying buttresses that abut them; for the stability of this kind of edifice only consists of a system of equilibrium or opposed pressures, whose mechanism has been sufficiently expplained in Art. Construction. Thus it was necessary to build the high vaults in parts, to await the gathering of the resources required to erect the eave walls of the great carpentry. Then was temporarily covered each portion of the completed v vault by the simplest and cheapest method; over the side arch es were erected wooden gables with apexes on a level and a ri ridge placed on posts on the axis of the main roof. These gab les were connected with that ridge, the rafters were set, battens and tiles were placed over the whole. (2; see sketch A) ... The constructors took care to reserve at the imposts of the vaults basins endin gargoyles casting the water directly on the ground, as at the S. Chapelle of Paris, or into channels of the flying buttresses as at Notre Dame of Amiens. (Sketch

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B at C). Thus they could wait several months, even some years, before building tympanums over the windows, eave walls and the great carpentry, the vaults were covered, and the masonry had nothing to fear from the rain, snow or frost. As soon as the accumulated collections permitted continuing the work, between these gables and without destroying the temporary coverings were built the piers D and portions of the eave wall G: on t these parts of the eave wall, whose tops reached the ridges of the temporary covering, were placed the plates of the final roof (Sketch A at H), the great carpentry was placed and covered, and this being completed, the temporary covering underneath was removed with the mooden gables, and the tympanums were set on the side arches or archivolts of the windows, as well as so the ends of the cornices and eave wall still lacking. Pipes arranged in the piers D (See sketch B) led the wat er from the gutter E to the gargoylessC, which were thus utilized with the temporary and final covering. But the eye had been accustomed to see these wooden gables over the side arches of the vaults, interrupting the norizontal lines of the c cornices and eave wall. When they were removed, the crown of the completed edifice must appear cold and poor; the architects then had the idea of substituting stone gables for these temporary constructions, whose effect was pleasing. That is what Pierre of Montereau did at the S. Chapelle of Paris after 1245. That example was frequently followed about the end of the 13 th centary, notably around the choir of the cathedral of Amiens; then later at Cologne.

Note 1.p.4. Art. Penetre, Fig. 19.

puring the second half of the 13 th century, stone gables thus became a decorative motive frequently employed. The north and south portals of the transepts of the cathedral of P Paris, whose construction dates from 1257, are surmounted by gables, that do not fulfil any useful functions, but which terminate the archivolts by great partly perforated triangles, breaking the monotony of the horizontal lines of these immense gables.

Here (3) is the gable of the southern portal of Notre Dame of Paris. The balustrade of the gallery passes behind that gable, which is nothing but an isolated wall 13 ins. thick. Other smaller gables surmount the niches accompanying this p

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The Meble of the midile corta, (4) represents the coronation of the Virgin at colossal sire, sarrounted by a series of canter coint of almost causing the primitive form of the pable to be forgother. Here the lines of the architecture are deserved by the scalpture.

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portal, and this form of great serrations at the base of the edifice. We have stated elsewhere 2 how the constructors of the middle ages employed these ornamental gables to load the side arches and prevent them from warping.

Note 2.p.s. Art. Construction, Fig. 108.

The three portals of the cathedral of Amiens are very deep, comprised between great projecting buttresses, and are covered by gable roofs closed by solid gables, giving almost a right angle at top, only ornamented by rampant crockets and a crowning cross-flower. At the cathedral of Laon was adopted the s same arrangement; but the architect of the cathedral of Rheims about 1260, while retaining the principle, desired to give un unequaled richness to the gables of the three portals.

The gable of the middle porta, (4) represents the coronation of the Virgin at colossal size, surmounted by a series of canopies ascending like steps to the apex of the triangle. The statuary is in the round; the projections are prounounced to the point of almost causing the primitive form of the gable to be forgotten. Here the lines of the architecture are destroyed by the sculpture.

While the 14 th century gave to the gables great richness of details, yet it always had as a principle to leave to the lines of the architecture their necessary importance. The gable of the portal of the Calende at the cathedral of Rouen is one of the best composed among those remaining to us from that epoch. (5). It is entirely opened above the gallery, and decorated by reliefs in the foils below; its copings are dacorated by delicate tracery, that replaced the crockets, as on the south portal of the cathedral of Paris.

In the 15 th century the coopings of the gables became still steeper, thicker, more loaded by mouldings, and the internal tracery is more open and lean. At the end of the 15 th century the copings of gables often form concave curves above the archivolts like elongated recurved arches. (Arts. Contre-Courbe; Construction, Figs. 106, 103; Fenetre, Figs. 19.26; Fleche, Figs. 4, 6; Lucarne; Pignon).

GALERIE. Gallery.

A level covered passage opening to the interior or exterior, serving for communication from one place to another, for pass-

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We shall then divide galleries into service galleries contributing to the external or internal decoration of monuments, and galleries for walking (corridors) in castles or public or private edifices.

The architects of the middle ages established in their great monuments service corridors at different heights in order to make the oversight and maintenance easy. The high facades of cathedrals, for example, were divided into several stories by galleries, that allowed communication from the interior to t the exterior, maintain the surfaces, repair the glass of the rose window, and at need to decorate the facade by hangings d during great ceremonies. Our French cathedrals in the north. built about the beginning of the 13 th century, whose facades have been completed, are decorated by superposed galleries. The facade at Notre Dame of Paris, which was erected between the years 1210 and 1225, presents over the portals a first g gallery, very rich, whose intercolumniations are filled by colossal statues of the kings of Judah. That gallery is an actual portico covered by a ceiling of thick slabs. Above is the gallery of the Virgin under the rose window: that is not covered and is merely a terrace with a balustrade. A third gallery in the form of a very slender and very rich portico encloses the bases of the two towers and connects them. On the facade of the cathedral of Amiens over the three portals is a c covered service gallery, richly ornamented by arcades and little columns; the gallery of kings surmounts it, and this supp - contract contract of the contr

THE SELECTION OF RELEASE OF SELECTION OF SEL BITTER BUS ONE EASTER A TAINE BUS DELLE TO BE SEASON tains to the trace of the street of the street to wight the cold the cold to be and the cold to be and the cold to be an account to the cold to be an account to the cold to be a cold to -sec of relien guess of the arm it asses to restrict to - Handa, And ce one made of their . Clades a police. The P -andress charal he was for all and the Allon terral and a transwaste est positive at warlist with a state which the and the second of the second o and the same taken and the same and the same and the - 12 50 a 6213 70 - 168 50 m 1000 a 620 5 1 - m beganing and the to fall size for the will will the a trail THE REPORT OF THE PARTY OF THE PARTY OF THE REPORT OF THE PARTY OF THE actain, our sai sample in descent consessed, artification The transfer of the second of the state of the s and to and make the about the table and are such acres is trained they are true ones there the carrie of the wisen and De tion of the Alexanders of the Alexa on a bedressed transmit trade a print office to the color of 

Note 1.9.10. See 7 th Patretlen sur L'orchitecture, the eatirety of this foods.

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supports a terrace as at Paris. At Rheims at the base of the two western towers and over the central rose window as the uncovered gallery called the Gloria. Frog that gallery at certain festivals of the year, before the people assembled on the place, the clergy of Notre Dame intones the Gloria in excelsis. A long series of colossal statues of kings surrounds the base of the gable and the towers above that terrace. At Notre Dame of Chartres is seen a similar arrangement, but in much simpler proportions, extending only between the two towers. One can thus obtain an idea of what these galleries are in the edifices of the middle ages. We shall enter into more complete details relating to these important parts of construction.

GALERTES DES ROIS. Galleries of Kings.

The oldest gallery of kings to which can be given that name. because at the same time serving as a passage for the service of decoration, as that of the facade of Notre Dame of Paris: a date cannot be assigned to it later than 1220. That consists of a series of piers (1) supporting a stone ceiling on corbellings, and before each of these is placed a column. The k kings are placed at A and are sheltered by an arcade supported by columns. Fig. 2 gives this gallery in section; the statues of the kings are placed at A, a little behind the bases of the columns, and at B is a service passage behind the strengthening piers placed behind the columns. The terrace called that of the Virgin is at Ca Fig. 3 presents the external appearance of the gallery. By its style of composition, that gallery is certainly the most beautiful of all those existing on the facades of our French cathedrals. One will note how this arcade, low and simple in general composition, brilliant in details. forms a pleasing enclosure around the statues of the kings. As for its effect on the entirety of the facade, it is excellent. Yet the gallery of the kings of Notre Dame of Paris traces a rich and solid zone above the three portals, and very happily crowns them. The statuary is well at the scale of the monument, appears grand, without thereby lessening the architectural members.

Note 1.p.10. See 7 th Entretien sur l'orchitecture, the entirety of this focade.

The style of the gallery of the kings of Notre Dame of Rheims is quite different. At Rheims this gallery replaces that

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at Paris which surrounds the bases of the towers; it is merely a decoration and does not furnish that continuous passage. The construction dates from the end of the 13 th century, and its statuary is mediocre. This gallery being given in detail in the work of M. Gailhabaud, 1 it does not seem necessary to reproduce it here.

Note 1.p.13. L'Architecture du Ve au XVIIe siecle et les orts qui en dependent. Vol. I.

As for the cathedral of Amiens, the arrangement of its gall ery of kings is very beautiful. Like that of Paris, it surmounts the three portals: but at Amiens between the gallery of the kings and the gables of the porches an intermediate gallery of the most beautiful style of the art of the 13 th century. (About 1235). The lower gallery (4), that of the kings and the upper terrace A are all practicable and communicate with the lower stories of the towers. Behind the lower galler v open great windows without tracery, which lighted the central nave through another internal gallery, before the placing of the gallery of the great organs. Other short windows are opened behind the gallery of the kings: these look on a second g gallery over the lower gallery. The plan (5) explains that beautiful arrangement, which unfortunately is now concealed by the organ front. One notes (Fig. 4) that the lower gallery re rests on piers composed of three columns grouped before a pilaster: dischargiam arches richly ornamented by cusps and soulptured animals on the fronts of the imposts rest on these piers. Between these discharging arches the arch is free: it is a simple tracery supported on a monolithic column and maintained only under the intrados of the arch by two projections hanging from the two upper voissoirs of the circle. Thus the architect did not have to fear the rupture of the open tracery under the load orby settlement of the upper parts. A single course of stone separates the lower gallery from that of t the kings. The stone slab ceiling of the uncowered upper gallery rests on the lintels, that form the imposts of the arcade of the kings. Each of these imposts is cut with a channel and sends the water from the slab ceiling to the outside through the heads of gargoyles, that ornament the faces of the abacuses.

CALERIES DE SERVICE DES EGLISES. Service galleries of Churches.

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Ou the exteriors of the Rhenish charches of the 12 th cent-

 With the gallery of the kings of the cathedral of Amiens, we see one of those both service and ornamental galleries, the that break the vertical lines of the facades. During the 13 th century these galleries are tolerably varied in their design and details; they take a considerable importance like the great open gallery at the base of the towers of Notre Dame of Paris, and that of the portal of Notre Dame of Dijon, or where they are low and stumpy porticos, like the gallery of the facade of Notre Dame of Laon.

The question of art and of proportions in this case dominate the question of service. Yet those galleries always possess utility. In their grang edifices, the architects of the middle ages established means of easy passage at different levels, s so as to be able to oversee and maintain the structures, the roofs and the glass, without being compelled, as one is today, to erect costly and injurious scaffolds, because of the injuries they cause to the sculptures and the delicate parts of the architecture. The two superposed galleries of the western facade of the church of Notre Dame of Dijon (13 th century) are remarkably beautiful in composition and sculpture. We give (6) one of these galleries, surmounted by a high frieze of o ornaments in the fashion of metopes placed between projecting figures. These galleries were destined to connect the bases of the two towers, that have never been erected.

On the exteriors of the Rhenish churches of the 12 th century there frequently extend below the roofs galleries for passage, particularly around the apses. These galleries were then made at the expense of the springings of the half domes of t these apses; they are low, composed of little columns supporting round arches, and they impart richness and lightness to the crowns of those edifices.

We observe that this system is sometimes adopted in the soath of France, notably in religious monuments built of brick. Thus at the top of the church of the Jacobins at Toulouse is seen a service gallery, an actual covered gallery, placed beneath the gutter, and that opens into the turrets at the angles of the edifice, and permits passing around the structure near the summit of the vaults. That gallery (7) is lighted f from outside through the round openings B, allowing the examination of the vaults be the little glazed windows C opening THE TRANSPORT AND STREET AND STREET OF STREET, AS THE STREET, AS A STREET OF STREET OF STREET, AS A STREET OF STREET OF STREET OF STREET, AS A STREET OF STREET OF STREET, AS A STREET OF STREET OF STREET, AS A STREET OF STREET OF STREET, AS A STREET OF STREET, AS A STREET OF STREET, AS A ST

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under the side arches; it is supported on great discharging arches D turned from one buttress to another, and perfectly sheltering the glass windows placed at E. All this construction is of brick, and presents a most monumental appearance.

In the interiors of the great Cothic vaulted naves are found above the triforiums, particularly in Burgundy, service galleries passing behind the side arches of the vaults. We see galleries of this kind in the interior of the church of Notre Dame of Dijon, Notre Dame of Semur, of S. Etienne of Auxerre. (Art. Construction, Pigs. 78, 79 bis, 88). In the churches of Champagne and of Burgundy, we likewise see service galleries arranged in the side aisles of chapels, above the arches of the ground story, under the window sills. (Art. Construction, Pigs. 86, 87).

A gallery of that kind, very beautifully composed, exists around the side aisles of the choir of the abbey church of S. Jean at Sens. Beneath the side arches of the vaults of of these side aisles open triple windows; the gallery passes through their piers as it passes behind the piers bearing the vaults. (8).

Note 1.p.16. Now chapel of the hospital.

We cannot omit here the service galleries that intersect at about two-thirds the height of the side aisles and piers of the nave of the cathedral of Rouen, that pass on arcades around these piers on the side next the side aisle. This singular arrangement, whose motive can scarcely be explained today, seemed quite necessary then (about 1220), for men to believe it necessary to turn arches beneath the archivolts and to give to corbels surrounding the piers considerable importance a and richness. The perspective sketch (9) gives at A the plan of this gallery at the level B of the springing od the arches. At C must have existed a balastrade, whose supports are in p-place, but we believe has never been placed. The nave of the church S. Etienne-du-Mont at Paris, which dates from the 16 th century, presents an analogous arrangement. These galleries can only aid the hanging of the naves on festal days.

On this subject, one will also observe how many architects of the middle ages bring variety into the entirety as in the details of their conceptions. Their flexible methods always give them novel means, when a need is to be satisfied, to ful-

Carrotae on sportes of a commentation of a Palace.

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GALERIES DE SERVICE DES PALAIS+• Service Galleries of a Palace.

There are frequently established in the castles and palaces of the middle ages service galleries opening into the principal rooms. (Art. Construction, Pigs. 119, 120). These galleries serve one or several stories. At the tops of fortified b buildings of the 14 th and 15 th centuries, they become covered galleries suited for defense, and were then equipped with machicalations. (Arts. Chateaux; Donjon; Nachicoulis). We see in some castles the remains of these service galleries; they are sometimes made in the thickness of the walls themselves, pass through the buttresses, as in the example cited here, (Art. Construction, Fig. 120), or are supported on corbellings.

In the southern building of the palace of the Popes at Avignon, on the side next the court is found a pretty gallery of
the 14 th century, that gives entrance to the halls of the
second story. We reproduce (10) the cross section of this gallery with pointed vaults, and lighted by little windows opening on the court. The ceiling of this gallery served as au u
uncovered gallery with battlements and decorated by pinnacles.

This sort of service galleries end at stairs and are combined with them. Toward the end of the 14 th century the width of these corridors was increased, and at the end of the 15 th century men came to make them actual promenades. That custom was definitely adopted in the 16 th century, as one can see at the chateausof Blois, Fontainebleau, (gallery of Francis I), Chambord, etc. Then they were enriched by paintengs, sculptures, and furnished with benches. Galleries thus frequently replaced the great hall of the feudal castle.

Sauval relates that "in 1432 the duke of Bethforth (Bedford?) caused to be built at the palace of Tournelles a long gallery 115 ft. long and 9.6 ft. wide; it was named gallery of the guards, because the green guards were painted there; it was covered by a ceiling painted with his arms and devices, roofed with tiles set in lime mortar and cement, and surrounded by six banners enriched by his arms and those of his wife. But in past centuries," adds this author, "there was no mansion more magnificent than that completed by charles V in the apartment of the queen at the palace of S. Pol." That gallery

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to the sembletica of the chair in 1177, take mere neithed

was painted from the wainscot to the vault, so as to represent a grove full of plants, fruit trees and flowers, among which children played, the vault was white and blue." Besides that," continues Sanval, "king Charles V caused to be accorpainted a little corridor through which the queen passed to come from here oratory to the church of S. Paul. There at both sides a number of angels held a curtain of the liveries of the king; of the vault one could best speak op an azure sky, on which were represented descending a legion of angels, playing on instruments and chanting the anthems of Our Lady. Further, the sky, both of the corridor and of the hall were German blue (ultramarine), worth 10 Paris livres the pound, and the whole cost 26 crowns."

Note 1.p.19. Hist. et antia. de la ville de Paris. Vol. II. p. 281.

The corridors of private houses, intended to serve several connected rooms, were generally arranged in form of a shed r roof with a portico in the ground story, adapted to shelter a store of wood for warming, for drying linen, etc. These galleries were lightly built of wood on stone columns or posts, and had only the width of the cerridor, 3.3 to 4.9 ft. (Art. Maison).

GALETAS. Attic. Garret.

A story of a house under the roof, intended for keeping provisions and hanging linen. Many houses of the middle ages, especially in southern France, where the need of coolness is f felt. have attics under the roofs. (Art. Maison).

GARDE-CORPS, GARDE-FOUS. (Art. Balustrade).

GARGOYLE. Gargoyle. Spout.

It was only about the beginning of the 13 th century, that were placed gutters and consequently gargoyles at the edges of roofs. Until then the first centuries of the middle ages, water from roofs or terraces fell directly on the public street by means of the projection given to the coraices. (Art. Chenau). At the cathedral of Paris in the time of Maurice de Sully, i.e., the completion of the choir in 1190, there were neither gutters nor gargoyles; later on the same edifice about 1210,

stone and factorife-come and fine are available out as every end and it there are the state of the state of the state of the state of prejected with the irray analyses to Still spoke though nafetyless to leaders therear sin , will be to the tell to be a tell of AND THE STATE OF THE SECOND SE impressing and the continuous execution and places in the continuous continuo a to the second of the second de la company de whether say be like to state the same a court of the same apprend that analysis and religious to the training and re-Also for thise is inlarged from they a to adotte form local and property of the action of the property of ter geral dar an raine trea need fearenmen to die , official The second of the country of the cou Constant of and experience issued that he enter the experience of the content of the throughtens at evice and to the transfer of to the more by of this alife to Create, and the community of pulled the sent to which the terminate the sent the sent terminate and we to this give a green through the soul to be and to be -2755 Ami nylla ,neenge gard male designic andages des alary a fellow many energy games and end denoted the fitting of the his ly areached to the crown wouldfals, belonging to the archimarkether a denirity and to sentiate and ut byth has broken character, mergine their salient orings, accessing the usals of the collisions and emphasis partial professional feet for each for matter the will be and the first that the state of the state of Charteness and solffly has an exist a super to confict the TO DEED ADDRESS OF THE PERSON OF THE PERSON OF THE CARREST OF THE PERSON OF with this , and to see your to the the first of the time water of the manager was true remembered them each at laured already net, carry or 'ten district, and auto Caria, doto as pragonical in attander character; they do not have that real appearance so C ANDIAN APPRECIATIONS AND THE CONTRACT OF THE REPORT OF THE PROPERTY. ANTHER PERSONS PRESENTABLE ABOUT AND DESCRIPTION OF PERSONS ASSESSMENT AND PARTY AND P

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the mater in the gutters ran over the projection of the crown moulding by means of grooves sunk at certain distances. We see gargoyles appear about 1220 on certain parts of the cathedral of Laon. These gargoyles are wide, not numerous, composed of two courses, one forming the groove and the other the cover. (1). But laready these gargoyles affected the form of fanciful animals, rudely cut, as if to allow their construction to be seen. The architects of the 13 th century soon recognized, t that there was a considerable advantage in dividing the water= spouts. That indeed avoided long slopes in the gutter, and reduced each stream to a very small streamlet of water, not able to injure the lower construction. Thus the gargoyles were multiplied, and in increasing them they could be cut finer and more slender, and the sculpters took possession of those projecting stones to make an ornamental motive for the edifices. The diversity of forms given to gargoyles is prodigious: we do not know two of them alike in France, and our monuments of the middle ages are covered by them. Many of these gargoyles are masterpieces of sculpture, there is an entire world of an imals and persons composed with great energy, alive and boldly cat by skilful and assured hands. These beings are skilful ly attached to the crown mouldings, belonging to the architecture and give to the outlines of the edifices a particular character, marking their salient points, accenting the heads of the buttresses and emphasizing vertical lines. One can judge of the skill of architects and sculptors in the combination and execution of these spouts by the difficulty experienced in combining and executing them. In modern imitations made on Cothic edifices, it is very rare to see gargoyles, that are happily joined to the architecture; they are either badly placed, heavy or too slender, of soft forms, poor in invention or without character: they do not have that real appearance so remarkable in the old examples: they are impossible beings, o often ridiculous, gross caricatures without style.

certain limestones of the basin of the Seine, like the "clinquant" lias, lend themselves marvellously to the sculpture
of these long blocks of stone projecting from the structures.
There was indeed necessary a material firm enough to sufficiently resist in these conditions all causes of destruction,
that hasten their ruin. Thus it is at Paris or in the provinces

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where is found the lias, as for example at Tonnerre, that one can also collect the most beautiful examples of gargoyles. Be Bisidesthe school of sculpture of paris in the middle ages o certainly has an incontestable superiority over the adjacent provinces, particularly in what concerns statuary.

Cargoyles are systematically employed at Paris about 1240; at Notre Dame we see appear on the upper cornice about 1225 g gargnyles, still short, but already cut by skilful hands.(2). Those placed at the ends of the channels of the flying buttresses of the nave, and that are nearly of the same epoch, are already longer and more slender, relieved by corbels that allow them to be given great lengths from the face of the buttress. (3).

At the S. Chapelle of the palace at Paris, the gargoyles are more slender and more developed; these are not only the busts of animals, but are entire animals attached to the upper orom moulding by their paws; their heads are diverted to throw the water as far as possible from the angles of the buttresses.

(4). Some of these gargoyles were evidently sculptured by consummate artists.

We have indicated in Art. Cable, how the Gothic constructors when they built the great vaults of the naves, arranged t temporarily basins in the spandrels of those vaults, with external gargoyles to throw the rainwater from the flying buttress until the completion of the permanent roofs. These temporary gargoyles themselves become permanent, when the upper gutters were placed, by means of a nearly vertical duct descending from the gutter to the gargoyles. Here (5) is one of those gargoyles with double end, taken from the upper part of the cathedral of Amiens. (About 1235).

The gargoyles are doubled at each side of the buttresses as at the S. Chapelle of Paris, as around the hall of the synod of Sens, and around the chapels of the choir of Notre Dame of Paris; or they cross the axes of these buttresses, as at S. Nazaire of Garcassonne and in so many other edifices of the 13 th and 14 th centuries, and then they rest on a corbel(6); or they rests on the heads themselves of those buttresse, as around the chapels of the choir of the cathedral of Clermont. (7). (End of 13 th century).

About that time the composition of gargoyles becomes more c

consistence, this mean filters of the recivit times of welled as an arrange and a state of the series of arrange and a state of the series and a series are series as a series and a series and a series are series as a series and a series are series as a series and a series are a series are a series and a series are a series are a series and a series are a series and a series are a series are a series and a series are a series are a series are a series and a series are a

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Note 1.9.27. From Notes Dome of Ports.

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complicated, that human figures often replace those of animals, as may be seen in the last example, which shows us a winged demon appearing to carry off a small nude figure.

There exists around the monuments of this epoch a good number of gargoyles, that are veritable pieces of statuary. Church S. Urbain of Troyes has at the tops of the buttresses of the apse very remarkable gargoyles; we give one of them. (8).

Suring the 14 th century the gargnyles are generally long, already slender and charged with details; in the 1, th century they become yet more slender and take a character of strange ferocity. Although the details are refined and often too numerous, yet their mass retains its frank charm and an enersetio outline: the paws and wings of the animals are properly attached, and the heads are studied with care (9, 9 bis). These important parts of the sculpture of the middle ages have always been treated by skilful hands; they reserve till very late their original character, and yet in the first times of the Renaissance are seen on the edifices gargoyles, that retain the style of the 15 th century. Only during the second h half of the 16 th century did the sculpture absolutely reject the old forms given to the ejectors to adopt figures of chimeras recalling certain antique figures, consoles, or simple stone pipes in the form of spouts.

During the middle ages gargoyles were not always sculptured; sometimes in places where not exposed to view, the gargoyles art only blocket out. There are a great number of that sort that assume a very simple form (10). Gargoyles are common in Ile-de-France, Shampagne and on the banks of the lower Loire; rare in Burgundy, the centre and South of France; or if found on the monuments beyond the Loire, this is because they belong to edifices erected in the 13 th, and th and 15 th centuries by architects from the north, like the cathedrals of Clermont, Limoges, Carcessonne (S. Nazaire) and Narbonne. Where hard m materials are not common, as for example in Normandy, gargoyles are short and rarely sculptured, or are entirely wanting, the water descending from the roofs without gutters.

Note 1.p.27. From Notre Dome of Paris.

their gargoyles of metal. We have very few today of that sort from an epoch before the 16th century. Here is one (11) to be

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seen at the corner of a house at Vitre; it dates from the 15 th century, and is made of hammered lead (Art. Plomberie). We know ofno gargoyles of the middle ages of terra cotta. On brick edifices the gargoyles are of stone, as may be seen on the Jacobins of Toulouse, college S. Remond, and on many other old edifices of the same city.

GAUPPRURE. Gauffer. Stucco Recief.

Application of mortar on stone or wood forming raised ornaments, relief grounds, usually gilded. (Arts. Application; Pe Peinture).

GIRON. Tread. Travel line.

Width of the step of a stairs. The travel lineals said to be straight, when the tread is of equal width for its entire length; triangular, when the spep is inclosed in a circular wall. Then the travel is measured at the middle of its length.

GIROUTTE. Weathervane.

A place of iron or copper and fitted with a tube or two rings, rotating about an iron rod placed at the summit of a roof. D During the middle ages not everyone was permitted to place w weathervanes on the roofs of habitations. The weathervane was a mark of nobility, and its form was not optional. "Gentlemen," says fafourer. 1 have the sole right to have weathervanes on their houses; they are pointed like pennons for simple knights, and square like banners for knights bannerets." -- "It is known," also sasy S. Palaye. 2 "that the first act of possession of a fief or domain, a place taken in war, was indicated by the b banner of the new lord, placed on the most permanent place, on the highest tower." Old weathervanes are rare, they were usually painted with the arms of the lord, or were cut out so as to show the parts of those arms; they were sometimes surmounted by a crown, but that was toward the end of the 15 th o century. Most of the old vanes are so arranged that a solid portion is maintained in equilibrium by counterpoises, so ar to facilitate rotation on the iron axis. (1). The vanes of t the middle ages are small, placed high on iron rods and accompanied by lead terminals. (Art. Epi). The hospital of Beaune still retains the old vanes of its roofs, painted with the a

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The second of the second of the door. The second of the door. (Art. Sernariens).

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arms of Nicolas Rollin, chancellor of Burgundy (1441); these vanes are square with a single counterpoise, and decorated at the two corners by out-out leaves. Here is one of them (2). We also saw in 1833 on the chateau of Ambolse vanes from the beginning of the 16 th century with the arms of France perforated and ordered. (3). All French citizens could long since place vanes on their houses, and they did not fail to do so.

Note 1.p.29. Origines des armoires. p. 93. (See Solvaing, Chambolas and la Petrore.

Note 2.p.29. Nemotres sur l'ancienne chevalerie. Vol. I.p. 380. (Notes).

GNOMON. Gnomon. Hand.

A rod fixed in a slab and giving the hour of the day by the shadow cast on the dial. We see in the Olim, that in the 13 th century there were dials on the main roads. Louis IX in 1267 caused an inquiry to be made by a certain knight, Guiters de Vilete, bailiff of Tours, and a canon of Loches, Theobald de Compans, to know if the king had the right to remove stables of horses fixed on the ground and sundials supported by columns, all things that obstruct the roads. We see sundials from the 14 th and 15 th centuries on the angles of certain edifices of the middle ages, notably at the angle of the old tower of the cathedral of Chartres, and at the corner of the cloister of the cathedral of Laon. (Art. Cloitre, Fig. 16).

GOND. Hinge-pin.

piece of bent iron with flange built into stone, whose cylinder or slightly conical pin enters the eye of a hinge strap of the door. (Art. Serrurierie).

GORGE. Hollow. Overmantle.

A concave moulding. The name was also formerly given to the part of the hood of a fireplace comprised between the lintel and the crowning cornice beneath the ceiling.

GOTHIQUE. (Architecture). (Art. Architecture). Gothic architecture.

GOUSSET. Brace.

framed to form a right and a. (1). A is a brace.

CONT. Taste.

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A timber placed diagonally to prevent the bending of timbers framed to form a right angle. (1). A is a brace.

GOUT. Taste.

A man of sense said: - "The lack of taste leads to crime." The saying being true in our opinion, we are surrounded by c criminals.or men disposed to become such. Taste is the habit of the beautiful and the good; to be a man of taste, it is t then essential to distinguish good from evil, beauty from ugliness. The good (for deficintions are not wanting, if the quality is rare) is also the respect for the time; we do not admit that one can be an artest of taste without being a man of taste, for taste is not an corporeal advantage, like the s skill of the hand, but a reasoned development of the intellectual faculties. We meet in the world a number of skilful artists, who have no taste in spite of their talent, and some amateurs that are men of taste without having practised the arts. In general among artists. amameurs are regarded as scourges. as usurpers whose influence is pernicious. Not only do we not share that opinion, but we believe that if taste still holds a place in France, it is still chiefly to the public that we owe that advantage. We only claim here to speak of architecture. We cannot admit that an architect obeying restricted interests, mean prejudices, whose character is neither respectable nor respected, can put taste into his works. The man of taste does not lie to his conscience, but he expresses his th thoughts by the most natural means. To have taste in the arts is to love the true, to know how to express it simply. it is to reject exaggeration, always untrue: to allow the moral side of man to appear, with his reason, affections, tendencies and purpose. Then if this moral side is weak, reason be obscure. tendencies are low and the aim is vulgar or odious, it is diffichlt for taste to be satisfied.

Good taste like truth, is not obtrusive but persuades; and the day when you have said; "Here is the expression of good taste," men will be satisfied by your affirmation, more than that is necessary; it is requisite for this expression of good taste to be discussed and proved by the intimate accord of y your principles with the form that they adopt. If your principles are bad, taste is lacking, however beautiful the form

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It has already been thought for a long time, that it sufficed to make proof of taste by adopting certain recognized beautiful types and never departing from them. That method, accepted by the Academy des Beaux Arts in what concerns architecture, has led us to take for the expression of taste certain trite formulas, to exclude variety of invention, and to place outside the law of taste all artists, who seek to express new needs by new forms, or at least subject to new applications.

Since the 17 th century have been placed in honor many hypocrises, and we have the hypocrisy of taste, as we have religions hypocrisy. Those are discoveries that rigorously, we should be beyond. But just like religious hypocrisy, i.e., the external practice of formulas without principles, leading to unbelied and corruption, so the hypocrisy of taste conducts to depravity, and while the Academie des Beaux Arts compels its initiates to submit to formulas, whose sense it does not explain, we see around us it devote itself to the strongest shamelessness, not only outside the sanctuary of the initiated. but within their sanctuary itself. Taste (in architecture) in inspead of being a law proceeding from a true and general principle, accepted by all and applicable to all things, has become the privilege of an exclusive school. For example, it has been agreed, that the orders of Roman antiquity were works of taste, which we admit without objection, if those orders have any reason for existence; which we do not admit of nothing justifies their use, Art being reduced to certain practices declared alone to be orthodox in the matter of taste, is atrophied, descending a sted at each generation of initiates; one becomes an architect of taste by following a rut ever narrower and deeper, on the condition of never leaving it. Some archittects perhaps find an advantage in that, for nothing is more pleasant and easy in the arts, than to belong to a powerful society; but one can affirm that art has lost by this. With t the Academie des Beaux Arts, the jealous guardian of taste f for a very long time as it asserts, architecture, still so alive at the middle of the 17 th century, has gradually fallen into feebleness, that has led us to gradually fall into anarchy, 1.e., this exact knowledge of neade, of the dening of our closes.

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ARELE AND ENTERING THE STATE CARROL DE ATEST OF STATES TARROS DE RE LANG. S SENS OF RESEARCH, MISSES DE PROPERTIES DE augh a to sellerer out all edited at establish at aller to term a a di la delle get contained at at less and come tested in once a la date true politicists to be in the clare, and at the of the order fact. to the state of the state below that the state of Entertained and past of the analysis and colored by the terms es ses tion, the opening tion to whater, while is focusated had been a good on the been been been viscon at 1986 "interest elis and a second control of the second control o THE PARTY OF THE P Addition of the same about 1 the production of the same of the icas of taste in literature as in amonitecture. To excess at has eserify, and stancity, no must bave ideas, and in a fine days with the terminal and the second of serve to excress these at on the contrary, if we presceipy permitted with the Toron before warrant wind it simil among a we make no proof of tasks. If the portions of the formers erectet on public places; if those wast monuments accessible to NAME OF A PARTY OF THE PARTY OF fine climate, marked the tasks of the masters of the moris an whole beings weren it see it street in the particular and A THE RESIDENCE AND ADDRESS OF A SECRETARIAN AND ASSESSMENT ASSESS THE REAL PROPERTY AND ADDRESS OF THE PARTY WATER THE PARTY WAT medic eds to encionemik fine encoronoment of encionated by the party of the palace, cannot reasonerly pass for a work of teav beited, we indeed admit, that the order is studied w HART THEFT, Later Tells In the Later Color of the Color of the itself: but that portion is it very bad haste, as a nortico sociat to a parace. "Put this is not the place." to blind obedience or to revolt. But as for taste, good taste, i.e., that exact knowledge of needs, of the genius of our civilization, that true and temperate expression of what it has the right to demand from us, it is necessary to seek long to find it; and if by chance this taste for the true appears, it astonishes the multitude, and arouses censure, if not the wrath of those, who offer themselves as the sole depositables of sound doctrines.

Every architectural form that cannot be given as the consequence of an idea, a need or necessity, cannot be regarded as a work of taste. If there be taste in the execution of a colunn, this is not a reason that the colonnade of which it is a part is a work of taste: since for that it is necessary for that colonnade to be in its place, and to have a reason for existence. If it be said: "this palace is badly arranged and inconvenient: the services are not in their palaces, the rooms are dark, the construction is vicious, but it is decorated with taste," that is nearly as if one claims that a book is f full of eerors, the ideas of the author are confused, his subject badly developed, but that it is written with elegance. The first law for a writer is to know what he wishes to say and to make himself understood; clarity is one of the conditions of taste in literature as in architecture. To express his ideas clearly, and elegantly, he must have ideas, and it is necessary for these ideas to precede the form that must s serve to express them. But on the contrary, if we preoccupy ourselves with the form before knowing what it should express, we make no proof of taste. If the porticos of the Romans erec ted on public places; if those vast monuments accessible to the multitude, permitting circulation of air and light in a fine climate, marked the taste of the masters of the world in urban structures, the colonnade of the Louvre erected above a ground story and inaccessible to the public, sheltering the rare passer through it from neither san nor rains and not being in relations to the proportions and dimensions of the other parts of the palace, cannot reasonably pass for a work of taste. If desired, we indeed admit, that the order is studied w with taste, i.e., that it is incharmonious proportions with itself: but that portice is in very bad taste, as a portice applied to a palace. "But this is not the place."

The second the state of the second se A Greek of the cold fact harrest never the fact of the sies as as as week a service to the transportation of entransport to the all provided and control of the control and the control of the con tiving the relies of tease, no eard tens apply antitude and tiving The second of the first that the first term of the second detail as a stable seriorist to dance of contents for all for parami ratelles even in also also at the stales that of the soul or withing and stilled only when whos locination. Those manage which to singly had been specially and the soft tall etc. THE THE PARTY OF T management a constant to relations to be able to the contract of the contract ta dir peritonian direct to sala rota di agginera - see . skysses a le naist out plots from the balls of eres contracted in a season of the eres and fall of the mil pervience of the bound of the second care of th the of Wieger wise of the sinvers and set value both, that TO PERSONAL MARKINES OF A BOOK STORE BELL TO SECURE THE CONTROL from states, the second rest age of the second second THE IS NOT TO SEE THE LA AT ALL LASES FROM A TOUR . ACT THE SQLARE . I SECTION OF THE THE S. LETTERS Target and a second of the second sec of Pane gar paraga icch ca ne etice? seer feet an ee man and - Destrict the first opening on a district the transfer in -18an the appropriate and the state of the second of . The year along the transport of the same and the state that the same in the crack accreciate hard in a crack made, cares a garrent, fartare and to secure and natical dead spices what the property as the plants of The second terminal and second the second terminal second term and the first of the second of -an actuary to the July Tuesdessiful To analy wit wist with the coappoint there are a constant and the second state of the second state and all initial column to all might for the care and the column to the -ter silettire in 10 windows in aprica a text to become engin APPEAR OF THE PERSON OF THE PE coult him years him becomes as no success at these last has a

Happily for art, there are times when taste does not need to be defined; by that it even occurs that the art is true, t that it is submissive to the instructions of reason, that it does not repudiate its origin, and only speaks when there is something to say. In those times men are not preoccupied in giving the rules of taste, no more than among upright men they are not occupied in discussing what is lawful and what is not so. wen commence to speak of taste when taste has fled f from art to take refuge in the minds of rare artists; books o on virtue are written only when vice dominates. Those happy times are far from us; they existed among the Greeks of antiquity, they were brilliant during the middle ages, perhaps they might be revived on condition of admitting, that taste consists in the observation of very simple principles, not o in the preference given to some form in preference to another. When taste is restricted within the limits of a coterie, however powerful one wishes to assume it, this is no more than a sad pretension from which all tend to free themselves; for taste, good taste has the privilege of imposing itself in all times and in spite of prejudices, just like anything proceeding from truth. But today men scarcely understand what is taste. zoncerning architecture are professed verttable heresies in t the matter of taste; daily are given as models of taste works, whose sense it is impossible to comprehend, that are only notable for complete discord between purpose and appearance. 0 One says to us that this facade is in good taste; but why? Is it because all its parts are symmetrical? that it is ornament ed by columns and statues, that numerous ornaments are scattered everywhere? But the external symmetry conceals very diff erent services; here is a great hall, there a cabinet, farther on is a stairway. This window that lights the chamber of the master is of the same height and form as that opening on a c corridor. Bo these projecting columns indicate partition walls, or do they take the place of buttresses? But the division walls are placed beside those columns and on their axes; buttresses are superfluous, since the floors do not rest on this f front wall. We see niches hollowed in the middle of piers, w where we need to find a point of support. If we ridicule persons desiring to appear other than as they are, if we despise a man that seeks to impose on us concerning his rank, his place

A THE PARTY OF THE the scale of the second services in several terms of the second es attend for their selection as places and resident their the on the land designation portions for the state of the land of the state of the stat \* CO CO OF TAX DESCRIPTION OF THE PARTY OF T - market of the control of the contr To acceptance was actived to exalle a set to contact a to a Total Station Total as able to the telephone total the same of the bidge, the courty of an absence in attended the second of the sec -me To court and presents seatered lies & 40 to First section - 1. The region of the terrories of the terrories and the terrorie to the parties and the control of the control and the control of and the contract of the second and profession to the color of the color of the legs of the last Then all one name, tout and and and are the next and of toront deals value, finte to was distanting to te til areign of the contract of the contract of the contract of the contract of the livit of his tree int late, and more destina to cause, the toars, to be design with the challes, agree, inc inc. alone of the annual or one of the artistica or , commenced. tills success for ear testing on the testing account with THE RESTRICT OF THE PART OF TH ALTERS HAVE HAVE AND ADDRESS OF A LICEUP INTERESTED TO A DOCUMENTS The second secon the data and appropriate as asset to under the east and The between the capture and the capture of the contract of the period of -angle lock for within parents he halfedness sale soom about THE SQUIE SHOULD BE OF PROFITE AND AREA BY FIRST RESULT ADDITION with altered at losses there are easily partial to builtakenin piece and an appearing entry decident and the state of the minimum to solid, and the sit to each the content of the situation to a situal WE AND ADDRESS OF TAXABLE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF TAXABLE PARTY. The state of the s sending the seasons of the sending the send of the comparied by leaf that from a close Cherr, and the period THE RESIDENCE OF THE PARTY OF T The same and while statement of the same and same and same of many year average again acathropic at the applyings out to tadina and consisting of a length advisors we drawn

in the world, and if we find his manners in very bad taste, why do we find taste in erecting the facade of a palace befo. re offices for clerks, in placing colonnades before walls where not needed, in constructing portices for promenaders that do not exist, in concealing roofs behind acroterias as an inconvenient thing, in giving to a mayor's offices the appearan ce of a church, or to a palace of justice the appearance of a Roman temple? Taste is not as some believe it to be, a caprice more or less happy, the result of an instinct. No one is born a man of taste. On the contrary, taste is only the impression left us by a well directed education, the crown of patient labor, the reflection of the atmosphere is which one lives. To know and see only beautiful theory, to be nurtured on and compare them; to arrive by comparison to selection, mistrust judgments ready made, seek to discover the true from the false, flee mediocrity, fear infatuation, these are the means of forming one's taste. Taste is the consideration: it is only acquired after a long time by observation, never exceeding t the limit of the true and just, and never trusting to chance. Like honor, taste never endures any blemish, error, any low concession, no forgetting what is due to others and to one's self. Respect for the public on the part of an artist. who p produces a work, is the mark of taste. Now sincerity is the best mode of expressing respect. If deception was ever permitted, this would be toward those that scorn one. Yet we are far from the rules of taste at this point in the art of architecture. When we show to the public only appearances. We imitate stone with plastering or cement, marble and wood by painting. Those vaults that you believe to be carved stone are only plastering on laths; those oak panels arepine boards covered by coatings of surface decoration; those pilasters of m marble and gold, that appear to support a cornice and sustain a ceiling, are slabs of plaster attached to a wall loaded by their useless weight. Even those ceiling coffers, that represent to us panels in joinery, are nothing but cast mouldings suspended by iron ties from acrough floor, that has no relation to that decoration: so that in that hall in which you believe that you see the workmanship compete with the richness of the materia,, all is deception. Those piers that seem to support are themselves attached like paintings: those arches

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A CLASS THE SECRETARY THE SECRETARY SECTION AND ASSESSED ASSESSED. adaptation panel to sees of root over Thirty Ask to they of all the the electrical form and the state of the state of Eministration execution as and in provincial factorisation for their event Later the read that the same and the same and the same and the equal of driven matter hand and alselen on the tenter drift to the I'm be directions for our orders that their material rooms of with the second of the second four and wants the named or remove or expense or related to the bills. or iron, adain these details of religious chifices are serely - marting finite and micros and of fell and benefits . Although AND THE REAL PROPERTY AND ADDRESS OF THE PARTY AND ADDRESS. souleo a senedizer a ai esuch a slien a un fler a ment totiliga de religios e observo del discussión e constituir de se spilits limitime o call to their tieff their said and days about to then attend to all and the state of the security of the - Block is the U.D. of Party service tends for a service the against the against the case of court training a could at that there to there to Trailing a some note that after reality after after a mail and word for almost the part payer and and the conferent and rections in their section of from the section of their sections. Training and trainer of regimes limb denied the \$4 aven gott on the law recordings and the law recorder to the Cook also the laws real to deliver and related reads for Faft June 200 till tall

conceal wooden or iron lintels; that vault is suspended from a floor that it weakens; those marble columns are cylinders of stucco enclosing posts. The artist is a man of taste, you say; yes, if to make proof of taste is to mock you and to deceive the public in regard to the quality of the work.

Yet how did these artists of the middle ages in France proceed, accused of bad taste by the wits of the 17 th and 18 th centuries, little acquainted with architecture, and by our feeble modern schools, copying in pasteboard and plaster the robust splendors of those latter ages, imitating imitations through weariness and fatigue, for lack of principles and convictions, till the imitation style of the time of Louis XVI, as if the art of this time of weakness had a style? As if the come to that sad extremity it was necessary to send our young architects to Rome and Athens to be inspired by the arts of antiquity?

A first law was sincerity. Had they stone, wood, metal, stacco to be used in the work? They gave to each of these materials the structure. form and decoration suited to them: and even when they had attempted to impose on one of these materials f forms borrowed from the others, taste traced for them the limits that should not be passed, for they never sought to deceive by appearance. One can indeed find that a certain rose w window and certain tracery are delicately wrought; no one would take a rose window in stone or tracery of stone for wood or irou! again these details of religious edifices are merely openings, accessories that do not concern the actual construction, for one would recognize that without being an architect. For them a hall is a hall: a house is a residence; a palace is a palace; a church a church and a castle a castle: it would never have come into their minds to give a municipal edifice the outlines of a church as a pendant, to amuse idlers and g great lovers of symmetry. Did they cover that hall by a tunnel vault of wood? That is indeed a ceiling that we see, not at all the image of a masonry vault. Did they make a ceiling? The construction of the floor gives its compartments and decoration. In their opinion, a roof is made to cover an edifice: so they gave it sufficient inclination to remove the water' they did not conceal it behind an attic; on the same palace they did not erect flat and steep roofs; they adopted either

second of Ville wife to see and to live and and annual contractor THE RESIDENCE AND LOCAL TO STREET AND THE PROPERTY. rathe to this setting white the Table & all the rebal ation the courses of life extinct and Thirds in six a come of the street the terms of the siring and respect that the terms are place territaries of descends on at process to territor a setted to guinest els son songert e pickers de afean ena coma ablanca. -cm cfd to asministages and allern did 8019710 d3 hadein to 21 an indicate and the same an expension of suffer of territal the trace direct to it. To easy the the party of the traces and safe, esh to box los to state talent process; in a news of of shart in the same a still thirty and in another and he attack and patential of the patential and the patential ". Printed and that the real real residence and the teachers to receive the THE REAL PROPERTY AND THE PARTY OF THE PARTY the same did now rough the the roughtern will bin below. Acquiring the end of the second secon of the Torres, A faithful overhead at the court week as a page of along the second of the second 2) (4.21.1. ) (4.3 % 5.2 % 20 f ) (60 % 40 0 % 1 f ) (1.3 % 1 kg) recommendate access talks music of his height of Amelyik they -part of styles a 48 elber bills not sell attl 200 at and the encisorizate esses dimis en li acet val . flia book ela dec in the menner of writing, accord we not observe them in our NAMES THAT HERE MINERS OF THE WORLD'S BY THE BY THE STOPP STATE med drawer whealth off antiet between of to water but greater and the to appear the second of the second o A TO SCALLEGE BAY STIP FILLY THE AL HOLLING & by NAMES WIT polytical line figure of it represents the authorities of the authorities are tire essoital for a city mail; and the stranger that formersy white the titte and the control out and the title wanted him to be less the at the of those terms of the Property of Carteria and soul SERVICE STREET STREET STREET, DESIGNATION AND THE RESIDENCE OF DESIGNATION OF THE RESIDENCE of a sacrast, was ness of the size and the wase was uturent. test tajestic edifice.

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everywhere according to need, climate or the nature of the c covering. Does angallery pass behind this wall? We recognize it on the exterior by the manner in which the openings are made: is this a great hall? The windows will be high and wide in a is this a row of cells? The windows will be frequent and small. Starting from true principles, simple and reasoned, taste is no longer a matter of chance: it is attached to something real: it brings into the study of details a respect for the truth: it is pleased to express the needs and requirements of the programme: it varies its expression at each instant according to the theme given to it. To know how to say only what is necessary, and to know how to state things properly, is a proof of taste in the relations of the world; it is a mark of taste to give a nouse of a simple private man, occupied by tenants, the appearance of a palace? "If the owner can pay for this luxury," you say, "why not satisfy him?" Maybe; but you cannot help fi finding that the architect and his client have bad taste, and the extravagance of the latter does not excuse the compliance of the former. A building ordinance is not written in the style of a discourse at the Academie, an inventory in the style suitable for a romance; and the letter that you address to your gardener to advise him to plant salad herbs at the proper time is not like that you would write to a prince to request his good will. Why then, if we admit these distinctions in the manner of writing, should we not observe them in our architecture? We find in the art of the middle ages that propriety, the mark of an assured taste. The village church does not resemble a cathedral; it is not a diminutive of the latter. The house of a citizen is not built with the appearance of a palace. The city hall cannot be mistaken for a festal hall, or the hospital for a city hall; and the stranger that formerly walked in our cities could divine the purpose of each edifice from its external appearance; it would never occur to him to seek a holy water stoup at the door of a mayor's residence, believing that he entered a church, or to ask at the vestibule of a barrack, the name of the rich lord for whom was erected that majestic edifice.

Taste relates to the object, then first of all it is based on reason. As good sense is one of the (very ancient) qualities of our country, we have brought into our arts a delicate

on which book after indicating count and and confusions with Train and desired the sales and trained the sales \*After to Tr has an incompany to all annealect succession to -pail track the tradition was no new problem as all the table at the table to, entre to transportation and and an action action and action and - madante verdice in the national decide tradesiries acade and an order to be the control of the plant of the plant of and ericles entretains of the divillantion, that eroboand it. ening and and expense appropriately periods some falls of the pro-The start has been entered, as is control to be the control of erter of both to the weath of the fit, want fores and the state of the contract of the state of th - Party and buttles winters administration of the end of within the entire in wanting of any carriers for the entire benefort theirs ifs , misseys 7c , occient, the circuits, als Lo to to drain taste, as this half, edice dampai befraugh f A CHARLE THE PART OF THE PART mian of estampes to at him to? It' apainstale; busys a gian some of the terms, was to meet their take transferentially as the most the la remitting to the first of this order of the angle of the order wante deep to aske that the total of the one of see see full Avery time that it did now satisfity abandon our French means. security, one demonstrate and less yes, acres and telester, tor energie, in a marketoire of articles of please not WINIALWAY TOAT INVESTIGATION APPRICALLY OF THE SERVICE PROPERTY. THE ARTHUR DESIGNATION AND A PROPERTY OF THE SERVICE AS A LARGE STATE OF THE PROPERTY AND A PARTY AND The Property of the State of th seeps, converted themselves bearing the sections of the section of - militime marks out total middle name of Tallegowening describe will be an Addressed Digitares and thought production on these by The second of th terds compto to make and at the place of a Tought better a strains are purposed and projector dear and sain escapita necessible from all parts of the buildings, its gallerics and - NAME AND ADDRESS OF TAXABLE PARTY AND ADDRESS AND ADDRESS OF TAXABLE PARTY. se of tag absoltal of the Thyalids is a more of tages, and n as a cours are architect has scattered some some some so sand descript affairs being translatures as the personal for the

taste, when we have been left to our own instincts. Unfortunately architecture has long been embroiled with good sense in France and consequently with good taste, under the influence of erroneous doctrines. It was recognized in the 17 th century, that antique architecture was an art subject of pure taste. which is incontestable; men set themselves to produce antique architecture without thinkgin that if antique architect ure is conformed to taste, this is because it is the clear a and precise expression of the civilization, that produced it. But if by that even antique architecture submits to the rules of taste under the Roman emperors, it is contrary to those r rules of taste in the society of Louis XIV, which does not exactly resemble the society of Tiberius or Claudius. Then ( (in the 17 th century) reasoning scarcely entered into questions of art: architecture was an affair of colonnades, capitals, pediments and cornices, of symmetry, all things declared to be in grand taste, as them said, which without defining f farther what was meant by grand taste, which in our opinion is only a grand infatuation. Yet (for this is an occasion to make proof of taste, and to not fall into exaggeration), it is proper to recognize that this century (we speak of that of Louis XIV) knew how to produce in architecture works of great worth, every time that it did not entirely abandon our French sense. Certainly, one cannot deny that the hospital of the Invalids, for example, is a masterpiece of architecture. Why? Is it because we find there Roman archivolts and cornices? Certainly not: it is because that edifice presents a plan perfectly appropriate to the object: everywhere is grandeur without lost space, convenient services, general external appearance that clearly indicates its purpose. But to whom do we owe those magnificent arrangements? To Roman antiquity? Did Roman archite ts give us with other things that beautiful composition of the court with its four stairways at the augles, around which extends the cloister? No, that is the plan of a French abbey c cloister with its vast refectory, its dormitories, its church accessible from all parts of the buildings, its galleries and its daily services. By these arrangements suited to the purpose of the hospital of the Invalids is a work of taste, and n not because the architect has scattered some Roman mouldings on its facades; on the contrary, those details borrowed from

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sentrac and calably and or streets transcent offices and as and not statute, note to have a sendantal, not by lines resident to AND THESE OFFICE UPON AND ADDRESS OFFICE OPERATIONS HER RELEASE event traces, the correct matter than the ball the balls of the series specific line part the front street of designing to recent appropriate THE STREET OF STREET OF STREETS AND ASSESSMENT OF THE SALE SALE. - broke & and help a cold atomat about all atomatics and beaged what equipments and the experies that had not have the Charles the wellens of the preference altered to absent to the selbers saides, is has note medical times, thesestriary throats and rates, some into the throat, latter and regeres at an univers, and and have region than area, an the still percented the continuing, then cal repulling and the new of productions the soul state of the soul and cacked Greek and Latin words to ma French oncasus. The names -15 The cateful and apply of all tention man expenses and to AND DESCRIPTION OF THE PARTY OF berittly witters, billy all other tilestrices spines of the to be being the thingest and betalties the fines and bine has be to see heart the an entire that to be Printed, and the seeing THE RESERVED AND ADDRESS OF AN ADDRESS OF ALL ADDRESS. Chicken alone is an entired to me to brooks along it in area and ordered the state and the state and the state of Years to asign end of hemach

arenteest is bound to satisfy, and by the impression that no desires to make on the public; this is a sere of lapper of lapper to the dression that an assert of lapper in the contest of the dression of members without relations to that a lapper to entertain the composed of members without relations to other can be understood? This confusion introduced in the 17 other can be understood? This confusion introduced in the 17 others y soon made acontecture an art unimabilitible to the contest of the c

From the thoughtless introduction of certain forms and cot of the spirit of suctionity in accontesture, wen soon came no

an architecture entirely foreign to our climate, our customs and our genius, only injure a monument, or at least render it cold and monotonous. Those roofs with steep slopes (that are really French) clash with those antique cornices, with those arcades that have the great error of desiring to recall some Roman portico of a theatre or amphitheatre. In that taste cannot be satisfied, for taste demands also a relation, a correct lation of the entirety and the details. When Moliere took from Plautus the subject of his Amphytrion, although he adopted t the antique canvas, he has made morning, night, Jupiter, Amphvtrion. Alcmene and Sosia, speak like the lords, ladies and servants of the courts, and not like Greeks. Even more, he gave his personages the sentiments, ideas and prejudices of h his time; to express those ideas and sentiments, he has not tacked Greek and Latin words to his French phrases. The names od the personages have nothing to do with the matter, and Jupiter could call himself Louis, the Great and wear a great wig. Certainly Moliere, like all other illustrious authors of the 17 th century, greatly appreciated the ancients, and knew how to use them; did he cease thus to be French, and if we admire him, is not this because he is truly Prench? Why then in architecture alone is it permitted to one to express himself like a Limousin pupil of Rabelais, and how does that jargon be conformed to the rules of taste?

Stone, wood and iron are the materials with which the architect builds and satisfies the needs of his time; to express his ideas he gives forms to these materials: those forms are not and cannot be due to chance, they are produced by the requirements of construction, by the needs themselves that the architect is bound to satisfy, and by the impression that he desires to make on the public; this is assort of language for the eyes; why admit that this language does not correspond to the idea, either in entirety or in details? How admit also that a language composed of members without relations to each other can be understood? This confusion introduced in the 17 th century soon made architecture an art unintelligible to t the public; we see today more than ever the sad effects of this.

From the thoughtless introduction of certain forms and not of the spirit of antiquity in architecture, men soon came to the corruption of these forms, whose principles had not been

they don't have been proposed as all the proposition of the propositio the desirable of the part of the party of th discrete introduced in the stady of aroniceothre. Fet tante neve fent as outre land to est tolles? lengther as the to cost discrime are found forces of book fream conditions the made resided the CLT state and the sentition of the desertion ANTHON ANY OT THE PROPERTY OF PROPERTY AND THE PART AND THE examples four four four an erailar edifices built in Tealy or Persony. One of the most visible signs of the confusion on of each of boracits from lines end of secus find socia accia AND REAL PROPERTY AND ADDRESS OF SALES OF PERSONS AND ADDRESS OF PERSONS sorna, scarcely accesseds, test cannot os defined and vades. and hasaceforth cannot be requesed by as arounteeds as the r desile of invertacle principles. Takes nos been merely a slave of faction, and it was recognised but artists recognized or possessing tasts in 1730 no londer and it in 1800. That depres-THE PART OF REPORT OF THE PARTY d ic enterest cossessed neutral fat theory nor the practice of b the same of the sa oe mai taste. Te to then possible to whis proof of taste in so secritective without being profoundly versed in that are? As proof of the depreciation of tacte, we shall cite a serious and equiforened assour, and see inch he says concording tauks. I sail sai lo noiteanni one on codelet aunt lin tol estreanne arts. 1 one faults called taste is onisily credited in agreeble additioned to the course of a certain manner of beauty. or of working, that feeting stone comprehends, and that no and ysis can demonstrate." Para as enterpassing, for it says that "ao ole cal dispute about tastes," stros ne canot demonstrate restner those exist or not. And further: - "Taste is not that -sys inder esons revesso on she asked noisteen to of boldk dens of arrandarent, tones forbutane lines or incosing masses, what seize on both the and the seas it ail frequedly be what wholes wild suite continuous and charm of facil--MARKET PROPERTY OF THE PARTY NAMED AND ADDRESS OF THE PARTY N -nire henerotanieib sees end "co eno non desa est en sunt ".ro ors, that arote on the art of architecters at the besigning of turs (19 sr) century, taste is independente; it does not AND THE PROPERTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY.

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recognized at first. In the 18 th century men still believed that they employed Roman arts, while they only increased the disorder introduced in the study of architecture. Yet taste and a conventional feeling is so natural with us, that even in that disorder are found traces of that French quality. Our chateaus and public edifices of the last (18 th) century have a certain air of calm grandeur, of reason, very far from the exaggerations found then in similar edifices built in Italy or Germany. One of the most visible signs of the confusion in minds since that epoch is the small part allotted to taste in architecture. Taste has become a matter of detail, of fugitive charm, scarcely appreciable, that cannot be defined and vague, and thenceforth cannot be regarded by us architects as the r result of invariable principles. Taste has been merely a slave of fashion, and it was recognized that artists recognized as possessing taste in 1780 no longer had it in 1800. That depreciation of taste, for example, caused it to be said that such an artist possessed neither the theory nor the practice of h his art; in brief, that he was tolerably ignorant, but that he had taste. Is it then possible to make proof of taste in architecture without being profoundly versed in that art? As proof of the depreciation of taste, we shall cite a serious and enlightened author, and see what he says concerning taste. "Fikewise for all that relates to the imitation of the fine arts, 1 the faculty called taste is chiefly credited in agreea ble qualities, in the choice of a certain manner of beauty, or of working, that feeling alone comprehends, and that no analysis can demonstrate." This is embarrassing, for it says that "no one can dispute about tastes." since he cannot demonstrate whether those exist or not. And further: - "Taste is not that which in composition causes one to discover those ground systems of arrangement, those fortunate lines or imposing masses, that seize on both the mind and the eyes: but it will frequently be what mingles with these combinations the charm of facility, from which results the appearance of spontaneous creation." Thus we see that for one of the most distinguished authors, that wrote on the art of architecture at the beginning of this (19 th) century, taste is indeterminate; it does not preside over the general arrangement, it is called on by the artist only when the work is conceived, and when it is only

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Policial Airia to Laire previous and hespotary Carolinas, 11 was been electricate to reduce the cateful states of etainsteen each can entires seen efter state untain treat pass, shortles alter be men 7. terrain detailer in Junicipalers for contain dance out of Arra bicolar bias logar will accommodes, if it commodes the -mail fearth telling, areas feet, elected the great and to this prorance, burreche and didition arene, its il the collection amount consider and bee forestern agine consider some the while war down that the political at them, were that the particular market made to the state of the and the law gents because the collaborate and a ferrors of white data and the term of the second and the second and the term of the second sec provided a to Judge a to organization and an analytical a so December of the Parties of the Parti a man Editor tell fet grantled tillet ble to affectet mit at tille me NAME ARMS NAME TRANSPORT OF THE PROPERTY PARTIES. AND ADDRESS. terms and the enterest in author of everyone at the six name. rat for malyane of Fast, Sang, Seres, Perusilles, Research to the set of the property of the section and the section of the section of terd this chara to describe the printlesson as afast for form tion and appropriate of these residences, san for seasons to resident moderne alite des laterial, an interessentation rather Then leaded as a line committee and that an arrange are deannual transport of the statement and an end that the statement of knowledge, of denoral viens boen jant and proces, a remain CHAPTER AN AT adequate and I flags the first overty second de to var to adontioned addition patients and desired and the

necessary to give an attractive turn, i.e., in good French, the when necessary to subject it to the requirements of fashion of the day. It was indeed a trouble to speak or write on taste for two centuries, and found academies designed to maintain the rules of taste, to arrive at this conclusion: - "The oharm of facility, the manner of being and doing that feeling alone comprehends!

Note 1.p.38. Quatremere de Quincy. Pictionnaire d'architecture. Art. Gout.

Note 1.p.39. What is this imitation of the fine arts? Does the author desire to speak of initation or of the imitation of nature in art?

Reducing taste to these pretty and temporary functions, it has been necessary to reduce those, who are regarded as the depositaries of taste. Thus architects soon saw a certain part of bublic edifices leave their hands, since taste sees nothing in the great systems of agrangement, in imposing masses." Men have thought that their aid was useless, if it concerned the building of bridges, and constructing quays, making great terraces, barracks and military works. And if the public finds most of these buildings ugly, ungraceful and even barbarous, one can say that taste is nothing in them, and that the public is not to seek it there. Well our architects of the middle a ages were in accord with the public of their time, and beliewed that taste appeared as well in construction of a bridge or a fortress as in the ornamentation of a chapel or a bedroom; for them taste governed the conception and general arrangement as well as the details of the architecture, and one could even recognize that general quality in the matter was found even during the 17 th century. It suffices to see how were conceived the chateaus of Waux, Rincy, Berny, Versailles, Wonceaux, S. Germain, Chantilly, their parks and dependances, to be assured that taste in the architects, who directed the construction and arrangement of these residences, was not merely a o quality connected with the details, an indespensable manner "that feeling alone comprehends, and that no analysis can demonstrate," but on the contrary the result of good traditions, of knowledge, of general views both just and broad, a result whose causes and effects could be demonstrated. It is rather in the general arrangements, that the architects of the 17 th

compact when the sentiment in the seminate of the county of and and the county of the county of the county of the sentiment o

aged , avenue has a was no at 1777 to a variable building the contract the contract to the con in is the first confittee of hashe. If the stony wold of thet Man commence and the contribution of the contract the contract of the -ac ion igoba black yest jenesa ito io soilila ne eittimi ion cultive and to benefited particular and for intractions out all place read strong conference in calca and normanal teat while the to the first of the state of th .olegano Grigeron arise area to membra and to see it all the time entrace of the second of the city of the city med to employed to engale and the property of the second filling the eff lifery dediction was capablers, that see Inl to experience the real faces, although the party and are although the real cary differents from Lexis of the States of the expension him grendeur of those sample cases by lines, delicate but made apply animous flams tends as they extend winted in large less Afte sponding well it .lefferess his withought les singles seriete, and if size is invested, these are it only for experience adami, emclate to allie . wish -circos . wishing . sivalor at THE PER SER LESS SERVICES OF A CHARLEST SECTION AND POPULATION AND ADDRESS OF A SECTION COOK NOW NO SCHARGE MAN TOTAL OF THE PERSON OF SOME SOME erials (watch is also a occor of taste), they do not lavian tues centerally, but writers they according to the Canadam to be faitiled, the place to be occupied. In the same edifice margin , margarette atten, anten e gallingen em linte av to selected the other want test betterny other real tradition to ed her les destet , siniteres liens To savetorie tentatures bred, thillately at adverse of the extension of their station of -of their laters about of my infalantes where available and a special contract of IN SECTION AND PASSED AND AND AND ADDRESS OF THE ADDRESS. Windship the all will be all the state of the state of the state of - signal neight to will seeme and Judally from insurance and n and want have weatherers and in streets and the stal feet

century show their taste then in the execution of the details. In fact taste is manifested in all and directs all, in the mi midst of civilizations in conditions proper for their development. There is as much taste in the composition and order of the Parthenon, in the manner in which it is planted on the A Acropolis of Athens, as in the design and execution of the mouldings, and sculptures.

Now see how the architects of the middle ages in France have manifested this essential quality. As we have said above, truth is the first condition of taste. If the architects of that time possessed bricks for building, their construction will a not imitate an edifice of cut stone; they would adopt not only the construction but the decoration furnished by the bricks: avoiding strong projections in belts and cornices: they would not produce the effect by sculpture, but by the masses naturally given by the surfaces of terra cotta covering concrete. Also the brick monuments erected by the architects of the middle ages recall certain Roman structures of the time of the empire: employing the same procedures, they were led to recall the same forms, although them the habits of constructors were very different from those of the Romans. They emphasized the grandeur of those simple masses by lines, delicate but much accented in their details, such as they could compose with bricks set diagonally and corbelled. If they mixestone with bricks, and if stone is scarce, they use it only for monolithic columns, capitals, cornice slabs, sills of windows, jambs and archivolts. The mort costly the material, the more they know how to enhance the value by workmanship. Economic in materials (which is also a proof of taste), they do not lavish them uselessly, but select them according to the function to be fulfilled, the place to be occupied. In the same edifice we shall see monolithic columns, whose transportation, cutting and setting must have required much time, care and trouble, s supporting structures of small materials, raised and set by hand. Paithful observers of the principles of their construction, they desire these principles to be apparent. their jointing is not only a science, but an art that they wish to be appreciated, that is addressed to the eyes, explaining to all the procedures employed without the necessity of being initiated into all the secrets of the practician. Never does the c

mage of the transport of the first of the first water the following the contract of the first of -this eta fetto non lin nochiaturia nest dati such en un occi and the second of the second o cistant, the coldina and the season products the time and -and and all Tanadano at the sad that all advantate to see at agree to the state of the state on delivered at the last pental and the trobact stat of the want sic sig telegrap on Tyr register of midWist with the want or since her series true series with the state for all our Talkati to sent total to start til to sta till at laisatta till meller of the extension of the contact of the rest of ares that they are tree. So will parage object to sain; . E .taranco ... in thoses see "Il .... " end neve fine sisees end me des respectes of the state of the structure, and as to be alread british and read year last about financian him have total and the training of the court of the court of several to seed the services of the sections of sections and seed to pariet fuction that women the test press are said frances terings attached att beid in and devotes relies attached against an all the ball to have the state of the state and the state of the state o were give a see "High are plant for the second of the second of the at the first, and definite to the court, the of the and are one of the message of the search and comity, one nearly dept to memory and an entire that the file of the special Minerals with telephone visible and a state of the seat and visiole jointe and beda. Vos de nave adonced, or believed that bes stear? out to presentate set to sural set besacle av a elder on to construct like the architects of the middle a tion; marked about on norther or abstack than up his min make eroof of taste, since our construction is visible in spice of our offering he higher it, and that he slope force emission ARRESTS OF THE PART STREET, SCHOOL SEEDS AND THE PARTY OF then to elter twee at the neutrality to be from the working a w days countries. The many departments of the admission was next, colly de charac claim the sene atvantade.

And the beautiful and the beautiful after

Let us pass to the deneral arrandance. One cannot beny trans

construction disguise its means; it does not appear to be other than it is. Thus (and this observation all can make) the edifice of the middle ages gains rather than loses by showing its jointeng, the joints and beds of its structure; can one say as much of edifices built since the 18 th century? On the contrary in most of these monuments, is not the actual construction in such discord with the forms, that one is compelled to seek means suitable to disguise it? For example, can one imagine the colonnade of the Louvre with joints and beds as frankly accented as they are on the facade of Notre Dame of Paris? Then in that one cannot deny to the architects of the middle ages that they are true. One will perhaps object to this; that the Greeks and even the Romans did not accent the jointing las. a means of construction, the details of the structure, and st still one cannot claim that they have thus lacked taste in ce ceasing to be true. The Greeks and Romans, when they employed stone or marble, had in view the erection of edifices that a appeared all in one piece: they set stones with perfect joints and without mortar between them, so that the joints remained invisible. Among the Greeks the idea of giving to an edifice the appearance of homogeneous material, as would be a monument cut in the rock, was dominant to the point, that if they could not use materials of extreme fineness and purity, when they built in stone and not in marble, they covered that stone with fine stucco, which absolutely concealed those scarcely visible joints and beds. Now we have adopted, or believed that we adopted the forms of the architecture of the Greeks and Romans, and we construct like the architects of the middle a ages, setting stones on mortar or plaster. Then we do not make proof of taste, since our construction is visible in spite of our efforts to disguise it, and that we adopt forms evidently changed if the jointing remains visible. If then in construction to show taste it is necessary to be true, the ancients like the artists of the middle ages were men of taste, and t today we cannot claim the same advantage.

Note 1.p. 10. Art. Construction.

Let us pass to the general arrangement. One cannot deny that our churches of the middle ages, large or small, perfectly f fulfil their purpose; that the plans of those edifices, most frequently borrowed from the Roman basilica, but profoundly

rates and anticipate to account to along the contract to the c AND TAXABLE PARTY OF THE PARTY NAMED AND POST OF TAXABLE PARTY. THE RIGHT WAS TO RESIDENCE THE REAL PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE REAL PROPERTY OF THE PROPER es an relaried as a bereitle only san the solution of westmany fullished out west hadden byokin the field would the second secon sir of the states, was the orderstand, fargerite to the series and the content of the content of the content of the content been tested by the tested by the test of the and the and the -unidate at 35 Ene ea 15 and 51 net 3e millione not no 25 and budgate as an entropy den per annexemples on Latitation to contra with the state of the second of the second and a second sections. to be a second to the second the second to be a sec tweeter, but tracket the recess of florite delicate telegraph to he as a real section and a classical teachers and a classical teachers - arecoming the est (300) and the electric collections and the section of th - corners deposited not any object to the said to be the best of and the second of the second second to the second second second PARTIES OF THE PROPERTY AND ADDRESS AND ADDRESS AND ADDRESS OF THE PARTIES OF THE arecter suitable for each part. Just as in the city all the reaction with waters of the first of the country of the country the great adjusted about the contract of the sale and a sale and not conform to the bacte of arcanteers of the dentary. withhouse day percention is noted the city requires the agreement -defect fects of the effect dated a telephone with a fert . . That Ol was

se coccounted a dreat area orall, allowed thair intermincommunity or and description or a series were restantly projected externally, a and the atoric on a coccounter at and the details concested ander staces letteline stone, and the details

modified according to needs and means of construction, were w well conceived, since then nothing better had been found, and that even in the time when the architecture of the middle ages was regarded as a barbaric art, men did nothing but copy these plans and always spoiling them. The beautiful arrangement of the sanctuaries wit side aisles, that belongs to the middle ages, must infallibly produce a very grand effect. That arrangement is simple, easy to understand, favorable to the development of the ceremonies of worship, and to the most sumptuous decoration. Eveeywhere is easy circulation, air and light. If in the castles of the 13 th, 14 th and 15 th centuries these symmetrical arrangements are not found to be adopted since that time, this is really because the daily needs of the inhabitants of those residences did not lend themselves to s symmetry. Men thought then rather of finding suitable intermal arrangements and sufficient means of defense, rather than to present to passers balanced facades. Taste did not then consi st in seeking this symmetry without reason, but on the contrary in expressing the various needs by the different appearances given to the buildings. The great hall, chapel, lodgings, kitchen, defenses and barracks, adopted the architectural character suitable for each part. Just as in the city all the edifices were marked at the angle by their purpose, in a castle each service possessed a particular appearance. That did not conform to the taste of architects of the 17 th century. but it did agree with absolute taste, i.e., with truth and r reason. The ancients did not proceed otherwise, and the different parts composing a Roman villa had no symmetrical relation to each other.

The houses of private persons during the middle ages, whether occupying a great area or were small, allowed their internal arrangement to be clearly seen on the exterior. The hall, the room for the reunion of the family, was distinguished from the bedrooms and closets by the arrangement of its openings; stairways were visible and generally projected externally, a and if the stories were mezzanine, the architect did not cut great windows across the floors. The half timber facade was not concealed under stucco imitating stone, and the details were at the scale of the occupants. If the porticos protected passers, they were sufficiently low and deep to shelter them

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communant. Cardoyle. See Art. Carpoullie.

THE RESERVE AND ADDRESS OF A PERSON NAMED IN COLUMN 1

while leaving an easy passage under their arcades. Before regarding the fountain as the point of view, it was believed to that it was intended to supply water to all that needed it. Before making the entrance of a public establishment a monumental decoration, it was thought proper to shelter under a hood the persons knocking at the gate. The task of the architect of taste was then to give to everything an appearance suited to its use, free to apply the ornamentation suited to each part. Architecture did not impose itself, it obeyed; but it obeyed like a free person without constraint, without abandoning its principles, placing its resources and its knowledge at the service of the needs to be satisfied, before all regarding these needs as a dominant matter.

To return to methods conformed to taste, we then have something to do. much to undo: we have to lay aside what less indalgent minds regard as the pedantry of the schools, a coterie arrived at the power of a tyrannical oligarchy; we have to re respect the true, and reject the false, to struggle against habits already grown old, and therefore regarded as even respectable, we have also to acquire that facility in the use of the means placed at our command, a facility that is one of th the charms of the architecture of the ancients, like the architecture of the middle ages and of the Renaissance. An amateur of the arts one day said before us, while admiring greatly s some group in terra cotta of Bouchardon: - "It is antiquity without the stiffness." So man roads, as many heresies in t the matter of art. The terra cottas of Bouchardon nowise resemble the antique, and antique sculpture is not stiff. What is rigid, restricted and constrained, is everything imitative, labored and mannered. He that knows, he that is true, makes what he does with grace, flexibility, consequently with taste. In architecture the sole mode of showing taste is to apply p properly the principles that have become familiar to us; it is not to seek imitation of forms, however beautiful they may be, without knowing why we imitate thema

GOUTPTERE. Gargoyle. See Art. Gargouille.

GRANGE. Barn.

A rural building suitable to contain forage and grain. The

PARTY OF THE PARTY Anna to sever areas a plant to another at the same and and appropriate and not up to provide and the providing not shad to the contract of and the state of the contract and the court was that and public solutions at the organization A LEADING THE SHARE AND THE PROPERTY OF THE PROPERTY OF THE PARTY OF T -sb-eff of sens to leasure frire fliss easts tol . Slind flow the part with the state of the personal present present oddd Se fed and di wifnigh anniquinto da to den he for our fil 12 th contury, were the abboys had become very mealthy and d describing the unitarities of laste latter being a erected the most becaused and the largest. Measely they comthe re-entire to trace at the sometime as the rever of elected or of AND REPORTED THE PROPERTY OF THE PARTY OF TH to Levin everylies was a level to the language of the language was saying a ra-I've near information fulliforms will stailed bytes , freezess will ser to fire resid our real told Judy produced to reid and T ALLES THE REST OF THE PARTY O and the negative and the early and parties of the late of the case of the estel the principalities of the contract the contract of the c from the 13 th century. To dive the clan (1).

Ins entrance is placed at A in one of the long sides. That
it: at 7 is a well. Tid. 2 presents one of the deble mails a
bay. These berns were always placed on sheltered sites, dry
and leveled Aith care, so as to recove reinvector from the ba-

Note 1.p.A. We one these drawings, and with the precipet

The great abbeys took care to built their barns on sites and conditional by walls with turrets and well ordicated gites. These sentres of the storage of grain and foreign vere occupied by works temporarily deterned in these establishments isolated

monks were greatly occupied in agricultural labors, especially after the 11 th century, and built a great number of barns, either within the enclosure of the abbeys or in the country. An Art. Architecture Monastique we gave some of these buildings surrounded by enclosing walls, just like our farm buildings today. These barns were in very great number and generally well built. for there still exist several of them in Ile-de-France. Normandy, Champagne and Touraine, that date from the 12 th. 13 th and 14 th centuries. Chiefly at the end of the 12 th century, when the abbeys had become very wealthy and d devoted themselves to the cultivation of their lands, were e erected the most beautiful and the largest. Usually they consisted of three aisles separated by two rows of piers or of posts supporting enormous carpentry. M M Verdier and Cattois. in their excellent work on Architecture domestique en moyen age, give several, among others the beautiful monumental barn of t the abbey of Maubuisson, that dates from the first half of the 13 th century. M. de Caumont, in his Bulletin monumental. m mentions those of Perrieres. Ardennes and Eure: they date from the 12 th. 13 th and 14 th centuries. One of the barns of the abbey of Longchamps near Paris still entirely exists: it dates from the 13 th century. We give the plan (1).

Note 1.p.43. Vol. 14, p. 491; Vol. 15, p.193, 443, 198.

The entrance is placed at A in one of the long sides. That entrance consists of a wagon doorway with a house door beside it; at B is a well. Fig. 2 presents one of the gable walls s strengthened by five buttresses, and Fig. 3 is a cross section. The carpentry is executed with the greatest care in fine oak timbers with square coroers. Fig. 4 gives one longitudinal b bay. These barns were always placed on sheltered sites, dry and leveled with care, so as to remove rainwater from the base of the walls. In the vicinity of castles, or even sometimes in the court, barns were built to receive the stores of forage and grain required by the garrison.

Note 1.p.44. We one these drawings, made with the preatest care, to M. Bouloud, architect of the city of Paris.

The great abbeys took care to built their barns on sites surrounded by walls with turrets and well protected gates. These centres of the storage of grain and forage were occupied by monks temporarily detached in these establishments isolated perform contained. They were also impossed by converse and by uneasures. Thus they concerned localities thated mear the dates, and at misat travelers could fird localid in these denerances, intuitated by a lifet and the sound of a bell suspended over one of the entrances. Stadually the sour barns with the enclosures and localines came to scoup around themselves the national of the caseives the nations of the caseits, thus becoming the nucless of a manifet. The have in Friede many villages with no other origin.

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in the midst of the fields, and because of some fault or to p
perform penance. They were also innabited by converts and by
peasants. Thus they contained lodgings placed near the gates,
and at night travelers could find lodging in these dependances, indicated by a light and the sound of a bell suspended
over one of the entrances. Gradually the abbey barns with thenclosures and lodgings came to group around themselves the
habitations of the peasants, thus becoming the nucleus of a
hamlet. We have in France many villages with no other origin,
and that have retained the name of the grange. In time of war
the peasants shut themselves within the enclosure, and defended themselves at their best. At the instigation of some noble
rival of the abbey, they also came to pillage the barns of the
monks or to set fire to them, which was no great benefit to t
them.

Sometimes these rural buildings contained stables in the g ground story; such is the beautiful barn that yet exists near the church of S. Martin-aux-Bois in the department of Oise. The ground story is vaulted to receive the herds; above is a vast barn for forage. Barns are themselves fortified in certain localities, surrounded by ditches and flanked by towers. yet that arrangement rarely appears till the 15 th century, i i.e., at the time when the country in France was constantly ravaged by bands of wanderers.

GRIFFE. Claw. Corner-leaf.

This name is given to an appendage of the bases of columns during a certain part of the middle ages. One knows that the bases of the Roman Ionic and Corinthian orders consist of annular toruses resting on square plinths. (1). It results from this arrangement that the toruses A leave four corners A uncovered with a horizontal upper surface, that the least movement of the column would break. We do not deny that the composition of this architectural detail is not perfectly classic, but a after this statement, we may be allowed to regard this arrangement as vicious from the point of view of construction, little reassuring to the eye, that does not understand why these thin angles are retained under a vertical load. The ancients themselves felt so strongly the practical inconvenience of the square plinth, that they cut away the bottom bed of these

projecting anotes under the diadonils a b (2). That was an a

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it to carrier we conserve already, that from the last toris constants the angle of the plinth was left an appendate or reinforcement, that fives a certain footing of a great resistance to these and elections first class (3) are very simple in form; these era burs or spars that spring from the torus and rest on the triangular surfaces of the four corners of the plinth (Art.

them are made bieces of soulpture, very careful and often very ruba. In the 12 to century, in Phontal edifices are seen

ra of the choir of the calmentel of Strarburg. Thus organest

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projecting angles under the diagonals a b (2). That was an a admission of their uselessness; it would have been singular to have not retained them, giving the plinth a fircular or polygonal form.

It must be believed that the Romanesque architects desired to avoid a fracture of the angles of the plinth, for from the 11 th century we observe already, that from the last torus to the angle of the plinth was left an appendage or reinforcement. that gives a certain footing of a great resistance to these a angles. These first claws (3) are very simple in form: these are buds or spurs that spring from the torus and rest on the triangular surfaces of the four corners of the plinth (Art. Base). But soon these appendages being very near the eye, of them are made pieces of sculpture, very careful and often very rich. In the 12 th century, in Rhenish edifices are seen bases of cylindrical columns armed with large claws, finely sculptured, that strongly base the toruses on the plinth. Here (4) is one of those claws from the bases of the great piers of the choir of the cathedral of Strasburg. This ornament gives to the base a firmness very suitable for this architectural member, a strength absolutely wanting to the Roman base: the great lower torus is flattened (Art. Base), and further lends itself to receive these appendages.

Around the choir of the abbey church of Vezelay, the great cylindrical piers rest on bases ornamented by very beautiful corner leaves (15). We find some of them very remarkable, likewise sculptured, on the angles of the plinths of the great columns of the sanctuary of the collegiate church of Poissy: some (for these corner leaves vary on each base) representing fanciful animals sculptured with much delicacy (6). These two examples belong to the end of the 12 centurw. At the beginning of the 13 th century, the leaves are less varied in form; but their sculpture is energetic, very appropriate for the place and broadly modeled. Here (7) is one of the leaves from the b bases around the choir of the cathedral, of Laon. That leaf is terminated by a crocket scrolled on itself at its end and is intimately connected to the torus: it seems to have started on its sarface and to overlay it. One understands that these strong appendages give strength to the corners of the plinth. and permit them to resist the pressure caused by the irregular settlement.

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Sometimes (at the beginning of the 13 th century) the leaf is only a recess cut at the angle of a very thick plinth. Examoles of this sort of plinth are seen on the engaged columns of the chapels around the choir of the cathedral of Troyes. (8). The most ordinary leaf adopted in that epoch takes the form of a water leaf strongly resembling the heart leaf of a antique architecture, but more strongly modeled. Thus are scalptured the leaves of the bases of the columns of the lower part of the cathedral of Paris (9). About the middle of the 13 th century, the plinths of the bases being almost always o cut octagonal, the leaf disappeared. One sees it reappear in some monuments of the 14 th century, as at the (old) cathedral of Carcassonne (10) and at the cathedral of Sens (11). It de definitely vanished in the 15 th century. One can regret that this beautiful ornament was entirely abandoned; and indeed that if by chance an architect should use it anew as a necessary appendage to reassure the eye, men would not fail to accuse that architect of causing us to return to the barbarous times. But one should not despair of seeing it resume the place, that it so legitimately occupied.

Note 1.p.52. Left pier at the entrance of the nave, restored in the 14 th century.

GRILLAGE. Grille. Iron Grating. Screen.

A network of small iron bars or wire designed to protect g glass from hail, to preserve sculptures from contact, also sometimes precious articles deposited in the treasuries of c churches or castles. There remain few examples of grilles from an early epoch, yet we still possess some dating from the 13 th century. The windows of the chevet of the old cathedral of Beziers retain their gratings, that are pretty pieces of forging. They consist (1) of alternately simple muntins and of muntins to which are welded delicate iron sprays. These gratings are fixed in the jambs of the openings by means of cross bars A; these are provided with swelled openings, as indicated in detail B. The cross-bars are 0.8 in. thick by 1.4 iss. wide; the muntins are 0.6 in thick jy 0.8 in. wide; the sprays average 0.4 in square, and are held by means of clamps C set cold. But these are rather very delicate grilles than gratings.

Here (2) is an example of gratings made of iron wire and t

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that date from the 14 th century. This fragment was found at Rouen with a dealer in ironwork, and we have seen one absolutely similar in the cathedral of Munich. It will be admitted that those old iron workers or makers of gratings had more i imagination than those of our times. Our modern gratings have a less pleasing appearance.

GRILLE. Grille. Iron Enclosure.

An open enclosure of wrought iron or bronze. Roman antiquity often employed cast bronze for the grilles and enclosures. After the example of the ancients, in the first times of the middle ages, this procedure was sometimes adopted. Every one knows the beautiful grilles in cast copper of Notre Dame of Aix-la-Chapelle, and which date from the epoch of Charlemagne. Those enclosures were apparently made either in the East or by Byzantine artists established in Lombardy. But besides that those enclosures were very dear, both from the cost of the m materials employed and by the cost of modeling and moulding, they could be easily broken. Wrought iron was in very common use in Gaul from a very early period, and was by preference adopted for all open enclosures made in France during the m middle ages. The art of the smith was also developed among us. and it was singularly perfected during the 11 th and 12 th centuries. It is necessary to know that then men did not have the methods of manufacture introduced by modern industry; wrought iron was extended in plates or drawn in the form of bars by hand, without the aid of those powerful cylinders, that now instantaneously reduce a block of red hot iron into iron wire. To obtain a long iron bar of uniform size, well squared and smooth, was a first difficulty of which we have no idea, since all our iron is delivered to us by the mills, rolled i into bars of all dimensions and of very varied sections, without the hand of the smith having ever participated in this p primary work. Although one cannot deny the immense advantages of mechanical fabrication, yet it is certain that smiths have gradually lost the habit id working iron and of knowing its properties. Twenty years ago, one would have vainly sought in Paris a smith capable of fashioning the simplest grille, and if we find them today, this is due to the researches in the industrial arts of the middle ages and to some of those archTARE OF THE STATE OF THE STATE

beind B-13 in order to reader to sach bin dus, let us occopy parselves with Arilles. It will be afferetood without aiffigulary, that when it is necessery to draw out by hand a pleas of ref abe from in the form of a bar, her would swoit as much as not still a sking these bers of great length. The saith is concelled to turn that piece on the savil and to bring it gradually to the dimensions of a square rod, he cannot exceed cerally to the dimensions of a square rod, he cannot exceed cerally to the dimensions of a square rod, he cannot exceed cerally to the consecuently very in the consecuently very interesting very interesting very interesting very interesting very

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architects, who as some say, tend to nothing else than to cause the art of architecture to recede toward barbarism. That being said in order to render to each his due, let us occupy ourselves with grilles. It will be understood without difficulty, that when it is necessary to draw out by hand a piece of red hot iron in the form of a bar, men would avoid as much as possible making these bars of great length. The smith is compelled to turn that piece on the anvil and to bring it gradually to the dimensions of a square rod, he cannot exceed certain small dimensions, and he must seek by combinations of the connections to avoid very long bars, consequently very heavy. That alone explains why the oldest grilles are composed as far as possible of small bars.

Note 1.p.55. See Goilhoboud, Architecture du Ve ou XVIIe stecle. One of the oldest grilles known to us, and that is a work of art, is found in the cathedral of Puy-en-Velay. That hinged grille in one leaf consists of a frame of iron 1.6 ins. by 0.8 in. thick, containing four cross-bars separated by muntins 0.6 by 0.8 ins., between which are arranged iron scrolls very artistically composed. That grille dates, we think, from the beginning of the 12 th century. Here is a fragment of it (1). In height are counted 5 panels of scrolls welded at the connections and held to the muntins by clasps B. These clips are not welded but simply bent hot. Iron forged by hand always p presents irregularities, and the saith to conceal these irregularities had the idea of covering the muntins, scrolls and their clips by strokes of the punch and chisel, which gives this ironwork a bright appearance, costly and refined. The detail (2) indicates this kind op work done cold. Even the i irregularity if the work givas a special charm to those pieces of work on which the hand of man is felt everywhere. The munting of this grille are set flat and as we have stated, a are 0.6 j 0.8 in. The scrolls average 0.3 j 0.6 in.

Dureng the course of the 12 th century the mode of making the grilles was modified little; there are always muntins held in the sash and enclosing ornaments formed of iron spirals or square or flat section. When it is desired to give much strength to the grilles, the muntins and the spiracs present t the edges (3); on the contrany when a light appearance is to be given to them, the muntins and scrolls present their wide

sides (c). Tele are arecar statement, for the dissection dean annihites and art timelia curation in thelicets acculous to AND SECURE AND AND ASSESSMENT THE SECURE AND ADDRESS OF THE SECURE ADDRESS OF THE SECU ATTENDED TO THE PERSON OF THE Annihmed the berein makes have their street of the party of CELES SITURE OF STREET, SCHOOLSTEEL, SO THE SERVICE SCHOOLSTEEL, of they are set flat, their wide sales distinue by the effect WELF BE ASSESSED IN THE OWNER OF THE OWNER OF THE PROPERTY OF supply the T dies has need drawing of a drille, that as any baing made auto bers est chastus, the other at E having bers of the state and also telegated the state that the state and the Ly as Lively chopered, marker of the same time as any man-- the ci leadle sufference out or emilents as Inight to begin the and the crite of all sector where the ballion and the cities occupa in execution.

when your hour the oil of the 12 te century, the equine und before an density which made while professions density were The state of the second state of the second believed to be the second of t -teffers within an idea of the continues that you make the at country for living and parties are present of some linear to blance granded a very needle to this or the product and the with the day of the later of the selection of the selecti The house he had not been also been about the contraction of the the 12 to ceasury and besidentes of the 13 th. Phone erilled over the state of the state of the community of the state of he still be at the course to severe to the the trible of ARRESTANCE STREET, STR davie to summidee In situe dandered tangent seems to the apped not in the die or matrix. of enrhaned steel. Page mere AND MADE TO DESCRIPT AND ADDRESS OF DATES AND ADDRESS OF TAXABLE AND still seen in the abtey church of S. Denis, and of which we sive a sossinen nere (6). These drilles date from the Lad of see 12 th century, are forest into rare oarlection, and it s THE SECURIS SHOW THE SANTON ME SPARME OF A PARTY WAS atlibability of lead. The organists are stemped on only one proper were so I so posts flat street-see at 2011 and colde

sides (4). This may appear singular, for the geometrical drawing produces precisely the contrary effect; but the architects of the middle ages did not occupy themselves with the purely conventional geometrical effect. It is olear that every grille seen obliquely on the widest part of its surface, if the iron be set edgewise, their broad sides appear and are developed, which gives a striking appearance to the work, on the contrary. if they are set flat, their wide sides diminish by the effect of perspective, and narrow surfaces do not eucroach on the vo voids. Fig. 5 gives the same drawing of a grille, that at A b being made with bars set edgewise, the other at B having bars set flat, which will make understood this simple law, generally so little observed, because of the habit that we have acquired of paging no attention to the perspective effect in execution. But a geometrical elevation of a grille A will seem light and the grille B will appear strong, while the contrary occurs in execution.

However about the end of the 12 th century, the smiths some times sought combinations other than those produced by scrolls and sprays comprised between the muntins and cross-bars, they connected together with much skill panels of ornaments forming large designs by their combination. But that was rarely employed except for light enclosures composed of very thin bars. M. Didron possesses a very pretty grill of this kind, that has b been engraved in the Annales archaeologiques, 1 and that certainly belongs to the very remarkable ironwork of the end of the 12 th century and beginning of the 13 th. Those grilles are composed of scrolled sprays, only ornamented by some strokes of points or chisels, and seemed too poor to the smiths of the 12 th century, when it was necessary to enclose sanctuaties, to close certain important parts of religious or civil edifices: they soon terminated these sorolls by ornaments stamped hot in the die or matrix of hardened steel. Thus were fabricated the beautiful grilles, some remains of which are still seen in the abbey church of S. Denis, and of which we give a specimen here (6). These grilles date from the end of the 12 th century, are forged with rare perfection, and it s seems that in the hands of the workman the iron acquired the malleability of lead. The ornaments are stamped on only one side. Our Fig. is one-fourth fall size, at A we have traced

the spotton of the sourel at helf stre. Abbot Forer censed to of Antony on Assess that to indicate home on the contemporary authors and by Dom. Donoiet, who saw them; they artificia file fill fast out to manted set se decrease our was In the second willist their to return our lord outweet or atio-sich of a california of the calculation of a land of the calculation of the calculat PRODUCTION OF STATE OF STATE OF THE PARTY OF may so decines as brease, persect yfine of them store or simple, very leadorage or thin. To occorred that kness ca--i gir bedamil wardown and comi her cro semijance elew also con strict exceeding trein brecht, thus forming a series of affine of the land of the same and the tell of the same of the same of es so combined: Me suill fire paid beautiful erangled in the obour of one abbey sucrea of S. Carmer, and on all sides are remains tout shor us well, that their use was very frequent, -ma and that doe . are all as all men of the aret. the manufactured will be the second and the second tous articles, toubs and shrines, were dirrounded sometimes THE RESERVE AND THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF and proced by the Procedure of the Live State of the Stat the second and annual to the second of the s and herpital on the product the or till the scatter of and one socolls, indicad of cerra placed between martins and projected and particular out one can make the project of the particular of the parti Tor example, such is the beautiful from erille that proveous The second control was be proper out of the second of the Tistminsber. Te likemise possess in the storemore of the imwere skilled removed to the party of the last cled sencestal to outs means (f bis), that has the advantage the boomera , bestod visco), elicade seen? . et ed-cotto fire and colling a fine the chicat, rivered on the tron frageror, diver it erest fictoess at the same bine as the suspinity against o

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the section of the spiral at half size. Abbot Sager caused to be made for his church grilles of cast copper, as stated by contemporary authors and by Dom. Doublet, who saw them; they were destroyed at the beginning of the last (18 th) century. One observes that the system of iron grilles composed of panels of ornaments comprsed between the muntins and cross-bars. at the same time offered much stability and lightness; these panels could be easily inserted, removed or repaired, be rich or simple, very leaborate or thin. It occurred that these panels were sometimes grooved into the muntins finished with iron strips exceeding their breadth, thus forming a series of grooves. wany sanctuaries of churches were enclosed by grilles so combined: we still find quite beautiful examples in the choir of the abbey church of S. Germer, and on all sides are remains that show us well, that their use was very frequent. that this sort of works was not at all rare, and that the smiths made them without difficulty. Gupboards containing precious articles, tombs and shrines, were surrounded sometimes by grilles of extreme richness, particularly at the epoch when the art of the smith supplied the most beautiful examples of ironwork, we mean the 13 th century. (Art. Serrurerrie). T Those sorts of grilles are only decorated on the external face. and the scrolls, instead of being placed between muntins and cross-bars, are often placed before the principal framework. For example, such is the beautiful iron grille that protects the tomb of queen Eleanor in the choir of the abbey church of Westminster. We likewise possess in the storerooms of the imperial church of S. Denis, fragments of wrought grilles assembled according to this method (6 bis). that has the advantage of singularly stiffening the simple framework composed of muntins and cross-bars. These scrolls, finely forged, stamped and retouched with the chisel, riveted on the iron framework, gives it great richness at the same time as the stability against e every test.

Note 1.p.59. Vol. X. p.117.

Note 2.p.59. See Encyclopedie d'Architecture. Fonce, editor. Grilles for protection of treasuries, sanctuaries, rich tombs, preceius reliquaries, not only present an obstacle to t thieves or to indiscreet persons, but they are also sometimes armed with points and spikes that make climbing dangerous; s

each is the gralle of the exhausty of the caurum of Consume, of watch we give a fragment (6 ver). This graits is 4.6 ft.

The give a fragment (6 ver). This graits is 4.6 ft.

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such is the grille of the sanctuary of the church of Conques, of which we give a fragment (6 ter). This grille is 4.6 ft. high including the crowning points, and presents externally on each muntin a projecting appendage, that takes away all idea of attempting to scale it; further the muntins themselves are furnished with points, barbed and forged with care. The appendages A end in little dragons' heads, that seem to be guardians of the sanctuary. This curious grille is described and drawn in elevation in Vol. XI of Annales archaeoligiques of M Didron; i appears to us to belong to the end of the 12 th or the beginning of the 13 th centuries.

Before presenting models of enclosing grilles of a more recent epoch, it is necessary to say some words concerning fixed grilles and gratings fastened in glazed windows, serving both as grilles and for defense. The windows of treasuries of churches, of ground stories, of openings in castles, were often equipped with this sort of grilles artistically wrought. We still see on the exterior of the Romanesque openings of the church of Brede grilles of the 12 th century, interesting to study. Their fabrication is very naive, and yet they produce a very good effect. These Romanesque windows are only 10.2 ins. wide with a height of 3.0 ft. The defense consists of a single vertical bar of iron 1.2 ins. square, cross-bars A passed like keys through enlargements in the vertical bar. These cross-bars are flat, 0.8 × 0.3 in. Scrolls of flat iron 1.2 by 0.2 ins. are crossed and held consequently by means of cross keys A. The vertical stem is diminished at its upper end to enter the hole made in the keystone of the arch, and is made dovetailed at its lower end to furnish a good anchor. Here are no welds, only small forged pieces assembled in the most natural way. We have also seen these sorts of defensive grilles placed before windows of the 13 th century, and which are composed of vertical flat bars 1.4 × 0.8 ins., with keys riveted and crossed as indicated by Fig. 8. 1 The rivet is square in order to prevent the keys from turning. It is necessary to mention here also a very beautiful fixed grille for defense found at Agen, Rue S. Antoine. 2 It now fills an entire round arch 5.2 ft. diameter, and we think it must have filled a rose window. Six panels arranged as youssoirs compose the semicire le, and are held by two semicircles and seven radiating pars. (9). iting of the 13 ta and 14 ta centuries.

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o hoves, whose erection loves in a culta recent epoch. The a sertre of the drille extets no longer, and we assume it to be

Fig. 6 farmises as with one of the farst examples of this a styre of arms and the restriction of the styre of

been employed. Prom the beginning of the 14 th century, the assembled by means of clamps and not solded, like the frilles of R. Denis, S. Germer, S. Aventin, of Graine, and of the cathedral of Regims, were but carely used; men soment other out the art lost. Rivets reclased clamps, and even wells: it

We give at A the detail of the principal piece of one of these panels formed of sorolls of ioon 0.32 in. square welded by means of bands B, according to the method employed by the smiths of the 13 th and 14 th centuries.

Note 1.p.63. Houseoot S. Antonin.

Note 2.p.65. By N Alaux, orchitect. This grille, or rather fragment of grille, is placed now under an arch of the door of a house, whose erection dates in a quite recent epoch. The countre of the grille exists no longer, and we assume it to be restored. (Art. Serrurierie).

Let us now return to enclosing grilles with opening parts. Fig. 6 furnishes us with one of the first examples of this s sort of grille with stamped ornaments, but there the bars are stamped and decorated on the flat; the work was much more difficult if necessary to ornament sorolls set edgewise. Yet that was frequently done by the smiths of the 13 th century. There is still seen in the church of Braine near Soissons portions of fixed grilles of charming design forged by that method. Very light in appearance and with iron set edgewise, these grilles have great stability. At A is traced the section of the scrolls at full size. These scrolls are stamped on both edges at B and C, which adds much to the difficulty of execution. The thickness of the edge diminishes much at the end of each branch bearing an ornament, so that these ornaments are kept within the thickness E F.

Meanwhile the art of the smith has not remained stationary in France; it sought new means and forms, that had not yet been employed. From the beginning of the 14 th century, the system of grilles composed of scrolls twisted and stamped, assembled by means of clamps and not welded, like the grilles of S. Denis, S. Germer, S. Aventin, of Braine, and of the cathedral of Rheims, were but rarely used; men sought other combinations, introduced plates of wrought iron perforated and in relief, as decorative means, instead of ornaments stamped on solid iron. The smiths desired to produce more effect with simpler means of fabrication. The industry was perfected, but the art lost. Rivets replaced clamps, and even welds; it must no less be recognized, that the workmen of that epoch we were much more skilful than ours, concerning the mode of handling the iron and submitting it to the action of fire. Indeed,

now of those delicate rorrs, is the authormisy in evecution and the sallestility of the meral. The iron bars of these old drilles, although clased in the fire a free number of times before the completion of the work, are never burnt, they retain their flevibility, and the welds are made with a perfection and freedom very difficult to obtain today. The file is nearly difficult to obtain today. The file is the file of the fi

Note 1.9.65. See Collhoboud, Architecture du ve ou XVIIIe eicole et les ors and en dependent. Vol. IV.

Note 1.p. 26. We do not wish to seem unjust toword our time; with a little persistence ont sood advice, one ofoln today co conser to make these works in iron. Revides, it is never works men that are worthing in France. The obstacle is routine and orejudices; to speak out, it is the ignorance of the obies.

orilles with stamped organisate and those obtained with iron polaries authors. Gere are not the attaches blades, but there is no londer the stamped iron; the prince

as were excense of the sample, whole rod has been upset to the cast so the markins by clamps, like the drilles of the routins of the upset cross-our and

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THE COURSE OF STREET, STREET,

for one that will take the trouble to study the procedures employed by the smiths, what must surprise him in the fabrication of those delicate works, is the uniformity in execution and the malleability of the metal. The iron bars of these old grilles, although placed in the fire a great number of times before the completion of the work, are never burnt, they retain their flexibility, and the welds are made with a perfection and freedom very difficult to obtain today. The file is used to correct the errors of the smith; there a file was never employed on visible parts, but the hammer alone leaves its mark on the iron.

Note 1.p.65. See Guilhaboud, Architecture du Ve ou XVIIIe stecle et les orts qui en dependent. Vol. IV.

Note 1.p.68. We do not wish to seem unjust toward our time; with a little persistence and good advice, one again today co comes to make these works in iron. Besides, it is never work-men that are wanting in France. The obstacle is routine and prejudices; to speak out, it is the ignorance of the chiefs, an ignorance possed into the state of privilege that cannot be attacked.

Here is a fragment of the enclosing grille of the 14 th century (11), which explains the transition between the system of grilles with stamped ornaments and those obtained with iron p plates in relief attached by rivets. Here are not the attached plates, but there is no longer the stamped iron; the principle of muntins and cross-bars remains, and each scroll is made and introduced in detail A: the cut leaves are obtained at the expense of the scrolls, whose rod has been upset to form a mass and then flattened under the hammer. Instead of b being attached to the muntins by clamps, like the grilles of the 13 th century, these scrolls are riveted laterally at C. The muntins pass through the eyes of the upper cross-bar and are riveted under the lower cross-bar at D; further, they are covered on two faces by two thin bands of wrought iron retouched and incised with the chisel. These strips, that we have o omitted in the drawing of the entire grille, are represented in the detail E: the muntins and cross-bars are 0.6 in. wide by 1.0 in. deep; the scrolls are 0.2 by 0.6 in. deep. The entire grille between cross-bars is nearly 3.3 ft. high. 1 Note 1.p. 89. From a claister, storerooms of S. Denis.

It eas to basasived has as at eas to has eas se vilosere? th centaries, the iron places service as chassedes are weidst co tas large para or the servils; it was only later that one riveced place sas encloyed as a decoration. There exists to sha cloisver of the cathedral of Paven-velay a wrille of THE THE REST NORTHERN PROPERTY AND ADDRESS OF THE PARTY AND ADDRESS. Face bey beers an oree aron velded to the outtresses A. (198 at A the senting in a b'. For agen of the mean is rivered at P neare and lessing ai dounk , and end le maner alchim end of munting arve a cross section 3.6 in. solare. The trefoils C are flattened on the savil at the extreme ands and susps. The larves D and the clate are selfed to the arch. Retween the -na ent wrol of benoone fine two one asseld acri eletil animour eale T (see detail 6). The crowning leaves are also of plates seems not appeal that he minimum not be teller officioner our terms. and essentials of the mantine and the mouldings of the butters -T .eith ont to espent then had not been the see se then (shout the bettinging of the 1, th century) men frequently of the same or expendently as introduced in the opposite drawing (19). That sometimes viloned the filling or--malo no elevin of servosen bevise decourse to rivets or classes os. Rece is a nemarkable examine that comer from the comedral of costince (13). The sees how the disconta bar A is neld -lenderic des 2 ared-sucre and sat dil vend senetce out est vo ly. In this example the flat bars of the sorbils are rivered at C to the diagonal care and are could into out planes ar named to be the control of the control of the said of

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is of the 15 th century without ornerants of harmined or eximened iron, but whose simple composition and more of fabrication order-harm B, through which pass the mintiple G set diagonally. Indicated by detail 3, he receive the seguits R and their rimail through the secolds at c.

socils retirn beside one buttresses as indicated by detail %. On the onner send tuese sorolls rest nearest too this oarts

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Generally at the end of the 14 th and beginning of the 15 th centuries, the iron plates serving as ornaments are welded to the large bars or the scrolls; it was only later that the riveted plate was employed as a decoration. There exists in the cloister of the cathedral of Pay-en-Velay a grille of that kind, very skilfully forged. We give it as a whole. (12). Each bay bears an ogee arch welded to the buttresses A. (See at K the section on a b). The apex of the arch is riveted at B to the middle muntin of the bay, which is twisted! the other munting have a cross section 0.6 in. square. The trefoils C. are flattened on the anvil at the extreme ends and cusps. The leaves D and the plate are welded to the arch. Between the m muntins little iron plates are cut and groomed to form the arcade E (see detail E). The crowning leaves are also of plates and are carefully welded to the points of the bars. The bases and capitals of the muntins and the mouldings of the buttresses are shaped with the hammer, without traces of the file. T Then (about the beginning of the 1, th century) men frequenty set the muntins or cross-bars diagonally, as indicated in the opposite drawing (13). That sometimes allowed the filling ornaments to be held without having recourse to rivets or clamps. Here is a remarkable example that comes from the cathedral of constance (13). One sees how the diagonla bar A is held by the two motches that fit the two cross-bars B set diagonally. In this example the flat bars of the scrolls are riveted at 0 to the diagonal bars and are chauged into cut plates at their junction D, these plates all being varied, as indicated by the different sketches H.

In the cloister of the last cathedral is seen a pretty grille of the 15 th century without ornaments of hammered or stamped iron, but whose simple composition and mode of fabrication merit mention (14). At certain distances buttresses A receive cross-bars B, through which pass the muntins C set diagonally. Those muntins are alternately reduced in their upper part, as indicated by detail D, ho receive the scrolls E and their rivets. The other muntins F have tenons, that enter the upper rail through the scrolls at G.

The lower ornamentation presents a similar construction. The scrolls return beside the buttresses as indicated by detail 0. On the other hand these scrolls rest against the thiu parts

- Marina Tanah Canal Gana an Endr Tanalism to Antonion weat art to english the tooth, while the first with any angle of water more park species general foresting arenta talk affers our to easier as realised at the six could asked fire as return of delete events of the feet and the contract the second and the extense THE MAN TO STREET HER OF THE OF THE PART OF THE PARTY OF THE PROPERTY. to the product of the arms are not the statement of the s or stances commercially in the Australia of the property of the property of to make all fill most established to altribut gar lift of respect to no sufficient to secretary had at not first fewer and armed the marry alvers territative of ordering, that may one units rederd as an expension of the mostan. We cate pers the dril-. Impainte of all account to alless on to exclude out to and - With the Variable and a self-real formation and self-real many to divide mileson has parallesons and he save being being being THE SAFFIER DESIGNS ON ASSESSED AND NOT ASSESS AND ADDRESS. nerganal (til) on orace liberty of select siene, such the made ones aftal dan constitue on sandans over all for alter source About spares a section all of beech at their states es refracted by the profile A. It is the same for the crossthe Je have the confirm of anything to safety being the continuous and the and topically very visited in relation properties for the father in-Carrier this week in ordinary a middless of state or week. what fift; was related by the resident of continues (191) have APPLICATION OF THE PROPERTY OF enies into a mar structure by means of ledders, by orenices In lead adia braditar after abaddets draw collecte out to and direct that I and organization for the basic production and ANNE REPORTED TRANSPORTED THE PARTY OF THE P were partied as for, that in orrhite many the malian and a were and the sent of the sent

of the points P, to which they are attached by rivets. The mintins F' pass through these scrolls at R and extend into the h horizontal bar S. One understands that this system of incomerk is very stable; the scrolls ahe not only attached by rivets, but depend on the principal structure, since the muntins or cross-bars stop them in a sure way by tenons. The muntins are 0.6 in square, the buttresses are 1.2 by 1.0 ins., the cross-bars are 1.2 × 0.8 ins.

The last examples of grilles that we have just given indicate mostly crownings more or less rich. Indeed the grilles of the middle ages always possessed these, unless they were arranged to serve as railings. After the 15 th century, these c crownings sometimes assume great importance, and are merely the decorated prolongations of the muntins passing through t the upper cross-bar. In the bays of the enclosure of the choir in the cathedral of Toulouse are noted fixed grilles, also wevy simple and fabricated in the 15 th century, whose crownings fill the trefoils of the stone arcade. Here (15) is one of them. The fixed grilles in the windows of castles or of houses are nearly always terminated by crownings, that one can only regard as an expansion of the muntins. We cite here the grilles of the windows of the casite of Farascon (15 th century). These grilles are composed of muntins close together and pass ing through swelled eyes of the cross-bars, and forming perfect souares with these. The two extreme and central muntins are terminated (16) by cross flowers of welded plates, while the lower ends of the same muntins are drawn out into very sharp points. Each muntin is fixed in the stone by a square bend, as indicated by the profile A. It is the same for the crossbars. Often the fixed grilles of windows are terminated at top and bottom by very elaborate points presenting formidable defenses; this sort of spiny grilles, a specimen of which we present (17), was placed before the windows of castles, particularly to prevent attempts at treason, the introduction of enemies into a war structure by means of ladders, by openings on the exterior. These gratings deeply anchored with lead at each cross-bar A and even sometimes at each muntin, could be torn away only after long labor. Precautionary measures were ever carried so far, that in certain cases the muntins and c cross-bars were so assembled, that it became impossible, eiereast to slide the monthing in the cross-berg, of the cross-berg, of the cross-berg in the eves of the muntip, these eyes beind made alternetaly in the cross-bars and muntips (19). It was

such eye must be forded as the cross-bars and muntime were assempled, i.e., the érille must be foréed while all ont, wordn

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places in the Workh and Rust. They date from the 14 th, 17 th and 16 th centuries. This (Fig. 18) is of the beginning of a the 16 th century. However the skill of the smiths is not email in all the provinces that compase the France of dur days.

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Pagerdy or Flanders.

Page 18 still seen in 8. Sernin of Tociouse a drille (19), inno analossa was enough at the citat of the pipes of the transference; elibored that with in iron may no very well environment onting composition, the workmanship is of the coarsest. The reating of isquare bars are heavily arought, and technique in finials R of namered and soles iron. Gades of plutes A and rate fastioned and oefforated, mask the cross-oarsof the frontly and their swelled ayes as indicated by section 0. The observer of the cross-rer o. detailed at R, terminate in little coeffenents with rosettes, arose fort is excisined by the ox-sective figure 7. The plates of the cross-bers a b, A R. are secotive figure 7. The plates of the cross-bers a b, A R. are

they are then entirely independent of the drilles and sorve only for the descritten of the Hork. These drilles date from the end of the 15 th century, and are the first there plates antended by rivers replace the plates of iron nembers and meided. That simplifices the fabrication and certile at decoration of the ironwork in very rich feamon, but must alightly

either to slide the muntins in the eyes of the cross-bars, or the cross-bars in the eyes of the muntins, these eyes being made alternately in the cross-bars and muntins (18). It was necessary to be a very skilful smith to make such grilles, for each eye must be forged as the cross-bars and muntins were assembled, i.e., the grille must be forged while all hot, which must cause considerable labor. Thus the workman must place in the fire each mesh of the grille a certain number of times. But these men seemed to play with difficulties of workmanship. that appear insurmountable to us today. The example here given came from anhouse in Sonstance. grilles of this kind are found, i.e., with alternating eyes, at Troyes, Strasburg, and in many places in the North and East. They date from the 14 th, 15 th and 16 th centuries. This (Fig. 18) is of the beginning of t the 16 th century. However the skill of the smiths is not equal in all the provinces that compose the France of Juradays.

Iron was wrought much better north of the Loire and in the provinces adjoining the Rhine than in the West and South. Certain grilles belonging to edifices of the 15 th century on the banks of the Garonne, for example, although well designed, cannot be compared to the works in iron of Ile-de-France, Picardy or Flanders.

There is still seen in S. Sernin of Toulouse a grille (19), that encloses the choir at the right of the piers of the transept: although that work in iron may be very well understood in composition, the workmanship is of the coarsest. The muntins of square bars are heavily wrought, and terminate in finials E of hammered and welded iron. Bands of plates A and B are fashioned and perforated, mask the cross-barsof the grille and their swelled eyes as indicated by section D. The plates of the cross-bar b, detailed at B, terminate in little battlements with rosettes, whose form is explained by the perspective figure . The plates of the cross-bars a b, A B, are held by rivets passing above and below the horisontal bars. they are then entirely independent of the grilles and serve only for the decoration of the work. These grilles date from the end of the 15 th century, and are the first where plates attached by rivets replace the plates of iron hammered and w welded. That simplifices the fabrication and permits the decoration of the ironwork in very rich fashion, but must slightly necross the school of smiths, so brilliant dariof a part of

sous secost was not near evenceion in the ordvices of the aprecease, as we have just seems, and the inclusing of the is and 16 to centuries, as forded nork on the banks of the Baine, in Flancers, Switzerland and Sevents, is perfect in 8 end daylour Ted to not know and a. s. the smith that wooden't see silles of the toth of Verinalish as Trasboack; out as a work in 1200, paper failles ore sucerior to all that we know of the the kind. (Art. Surrarieris). At the end of the in to and the aggiantag of the th contactes, one finds very incouncil. end of the convinces of the hast poilled, andse barets are as anotoured in wie. ? . The worldes compartment as formed of a starts round con O. 7 in. diameter, sand on its If and onnecrating itself, as above in sheron &. In Art. Serviceric de describe are procedure of farmineting than core of drilles. noti from force being and sinse the giberitte steek asin done cops. As have caused to be recroineds by very skilful saitas. ni basterteta sca acri ic cascaco sellip ?c bais sirt jev all directions are sufficiently common, that one must admit said they were made without difficulty in the 15 to and 16 to senguries. Altrauda light, they offer perfect stabiliting wose maken erilles wesk cousy it soits of the deducted metons. that has is quited to five than, are those tenous and orls. that make of irongraph a fabrication to be compared to is carre-To assemble iron pars by demis of tempes and northelises with efficient and to sentine and or virtuene as bessee awar bluck ears ages and Penalseance; this means, proper in joiners, dose not at all accord with the outure of irou, and the limensions that one must give to the parts of a grille. In fact, we no longer -cor topect on all artis its elements but until me no wood work -em end velous to men en dend evelled en Illes eme water rela sufrebla for structures much better that did the extras. and oreceded us by several centuries. It is clear that fabrisstipp on a graud scale, that of the mills, as devalored in our time in a remarkable manner; but is also careing then nortenable ass Paller then bolton Abad it was onne seletarise stace, when it concerns the worklad of iron. Poveyer very outasiful drilles were saill made to meanos during the 16 to, 17 on and if to concuries; out nearest and civoted planes of ar

depress the school of smiths, so brilliant during a part of the 12 th and the entire course of the 13 th century. Yet this school was not near extinction in the provinces of the northeast, as we have just stated, and the ironwork of the 15 th and 16 th centuries, as forged work on the banks of the Rhine, in Flanders, Switzerland and Eavaria, is perfect in e execution. We do not know who was the smith that wrought the grilles of the tomb of Maximilian at Innsbruck: but as a work in iron, those grilles are superior to all that we know of t the kind. (Art. Serrurierie). At the end of the 15 th and the beginning of the 16 th centuries, one finds very frequently in the provinces of the East grilles, whose panels are made as indicated in Fig. 20. The entire compartment is formed of a single round rod 0.5 in. diameter, bent on itself and penetrating itself, as shown in sketch A. In Art. Serrurerie we describe the procedure of fabricating this sort of grilles. which with great difficulty and after having burnt mauy iron rods. we have caused to be reproduced by very skilful smiths. Yet this kind of grilles composed of iron rods penetrating in all directions are sufficiently common, that one must admit that they were made without difficulty in the 15 th and 16 th centuries. Although light, they offer perfect stabilit: for what makes grilles weak today in spite of the unusual weight. that one is obliged to give them, are those tenons and pins. that make of ironwork a fabrication to be compared to joinery. To assemble iron bars by means of tenons and mortises with pins would have seemed an enormity to the smiths of the middle ages and Renaissance; this means, proper in joinery, does not at all accord with the nature of iron, and the dimensions that one must give to the parts of a grille. In fact, we no longer know how to weld iron but assemble it: this is no longer ironwork; and still we believe that we know how to employ the metals suitable for structures much better that did the smiths. who preceded us by several centuries. It is clear that fabric ation on a graud scale, that of the mills, has developed in our time in a remarkable manner; but it is also certain that workmanship has fallen much below what it was some centuries since, when it concerns the working of iron. However very beautiful grilles were still made in France during the 16 th, 17 th and 18 th centuries; but hammered and riveted plates play age ontel parts to the decoration of thise soris, men base lose the movacity of melting so skillativ organised by the salities of smiths of former times.

CHARLES THE SAME STANDARD

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Note 1.p. WO. Coutter d'supots. Pole of the 13 th centuru.

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oan be opened separately. (Art. Ports).

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A light work to plaster. Plaster was much proloved during the active active.

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An enclosed area, covered or uncovered, in which mercannish by means of a rental paid to the lord of the said place, aco-the 10 and 11 to centuries there was at Paris a tarket been and a site surrounded by a discu designated by the notate of anneally or Champeaux (meanows) dearly on the site of

the chief parts in the decoration of those works; men have l lost the methods of welding so skilfully practised by the guilds of smiths of former times.

GRISATLIE. (Art. Verriere).

GUMPTE. Watchman. Sentinel.

The person charged to watch at the tops of the defenses of castles.

"Ne have no watchman, do you know who watches?" 1

Note 1. p.79. Goutier d'Aupois. Tole of the 18 th century
published by Fr. Michel. 1835.

The watchman was not only charged to warn the persons of t the castle of all that passed in the country, but also to play airs at certain hours of the day: - (old French poem). Sometimes the name of watch is given to the place where the sentinel stands. (Art. Echauguette).

. Note 1.p. FO. Coutier d'Aupois. Tale of the 13 th centurw.

CHICHET. Kicket.

A little perforated leaf in the great leaf of a door, that can be opened separately. (Art. Porte).

GYPSERTE. Stucco Work.

A light work in plaster. Plaster was much employed during to the middle ages, particularly to coat interiors. We have also seen in the archbishop's palace of Narbonne a small rose window, whose compartments separate two adjacent halls. The work dated from the 16 th century. A goodnumber of mantles of fire-places in houses were made of plaster (Art. Cheminee). Thus were made in plaster partitions, open enclosures in the interiors of palaces and ceiling ornaments. (Art. Plancher).

HALLE. Market.

An enclosed area, covered or uncovered, in which merchants by means of a rental paid to the lord of the said place, acquired the right of selling certa n kinds of merchandize. From the 10 and 11 th centuries there was at Paris a market that w was held on a site surrounded by a ditch designated by the n name of campelli or Champeaux (meadows) nearly on the site of

ons and to bas Incoording of the besidents of the 12 th osacory," save Sauvel, 2 "logis too Nut ostablinged toare a go q verket for the mercers and moneyon regions that again in ifil breakforred these to the fair of R. Lasste. Two years 1 lacer ne ceased to us built tro markets suclosed by a rail deniminant with sacre and enclosed by sond dates, so take when it reined the merchants could sell their decomandise, and remann covered at all times and in all secures." "stress mulatolise singularly in Paris during the source of the 15 to and if an cantuites; 3. bours caused saveral to be escentished a soon 1742. Topersly one markets during the middle sees were notions but an area celonians to a feasul look or so the city, on much men certified the alle of abrobanties. The market mu neld in a class, under the openess of caucones or openions of nosses, around beil-turars, only nells, under enems. Thisod of the marker and to morumeatal couracter proplies to to. Paere is then no resear to sutered on choos succeptisaments. Ict Pagconditions within the contraction and confirm for 1917. "scosisted of 20 bays, ras 28.4 %. aide, and ras cov-

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represented on vicenettes of manuscripts of the 9 th and 11 th
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VINEST AND DESCRIPTION

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THE REAL PROPERTY AND ADDRESS OF THE PARTY O

the market of the Innocents. "At the beginning of the 12 th century." says Sauval. 2 "Louis the Pat established there a new market for the mercers and moneychangers. Philip August in 1181 transferred these to the fair of S. Lazare. Two years 1 later he caused to me built two markets enclosed by anwall furnished with shops and enclosed by good gates, so that when it rained the merchants could sell their merchandize, and remain covered at all times and in all security." Markets multiplied singularly in Paris during the course of the 13 th and 14 th centuries: S. Louis caused several to be established a about 1263. Senerally the markets during the middle ages were nothing but an area belonging to a feudal lord or to the city. on which was permitted the sale of merchandize. The market was held in a place, under the porches of churches or porticos of houses, around bell-towers, city halls, under sheds. Indeed the market had no monumental character peculiar to it. There is then no reason to eularge on those establishments. Yet Sauval mentions the wholesale cloth market of Paris, that from 1417, "consisted of 20 bays, was 38.4 ft. wide, and was covered by a vault of cut stone." But that market having been d demolished in 1572, we have no information of its construction. Note 2.p.80. Souval. Book IV.

HERSE. Portcullis.

A neavy open frame composed of iron bars or of framed carpentry, sliding in two vertical grooves and forming an obstacle under the opening of a fortified gateway. The portcullis is raised by means of a counterpoise or a windlass: it falls by its own weight. The Romans knew the portcullistic is seenen represented on vignettes of manuscripts of the 9 th and 11 th centuries. Yet in military edifices still standing, we know none earlier than the 12 th century.

We shall have occasion to give a certain number of combinations of portcullises in Art. Porte.

HEURTOIR. Knocker.

A hammer for striking gates. The first knockers seem to have been little mallets suspended on the leaves of portals. (Old French poem).

Note 1.p. 21. Li Romans de Berte aus grans pies. Chap. 45. Edit. Techener. 1832.

Those rinds facilitate calling the leaves, when one desires to close them; further they sere a sirn of asylum at the doors ledge of that ancient obstom (also mentioned by Gregory of Tours) in the history of the miracles of S. Sermain, coilected by the monk Heric of Auxerre, under Charles the Pald. In sea said "tabaser" at the door.

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not bee office it for the let be larger on the life of the same and the

Iron rings attached to bronze heads outside doors from a very early epoch, also served as knockers, for they often have a ball or enlarged portion, that strikes on a great nail head. Those rings facilitate pulling the leaves, when one desires to close them; further they were a sign of asylum at the doors of certain churches. To demand asylum, it sufficed to seize to the ring. On this subject, Lebeuf 2 says that there was knowledge of that ancient custom (also mentioned by Gregory of Tours) in the history of the miracles of S. Germain, collected by the monk Heric of Auxerre, under Charles the Bald. In the 16 th century to indicate the action of using the knocker, men said "tabuter" at the door.

Note 2.p.81. Histoire de la ville et du diocese de paris. Vol. I. p.374.

Note 3.p.81. Cymbalum mundi.

Here (1) is one of the oldest ring knockers that we know in France, that is attached to the north door of the cathedral of Puy-en-Velay; it dates from the 11 th century; the bronze head is perfectly preserved; the ring alone has been removed. We give a second one (2), that dates from the beginning of the 13 th century and that is intact; it is attached to the west door of the cathedral of Noyon. Here the head and the ring are of bronze.

But these ring knockers appear to have been especially intended for dicors of churches, perhaps because of that tradition of the right of aswlum. At the leaves of the doors of houses, the knockers are originally mallets, as we have just stated, then later were hammers suspended by two pins. The most ancient of which we have been able to procure drawings are v very simple in form (3), 1 and are only ornamented by engravings with the graver, that cover the head of the hammer as well as the two eyes holding its pins. Knockers of the 15 th century are less rare; a very beautiful one exists on the leaf of the door of the hospital of Beaune. 2 Here is another that comes from Chateaudun and which is of the same epoch (4). The pins of the hammer are protected from wet by a little shed roof p pierced by a dormer. The whole is of wrought iron of pretty work. One of the most beautiful comes from a house of Troves (5), and it is now deposited in the archaeological museum of the city. It likewise belongs to the 15 th century, and the

THE DESIGNATION OF STREET STREET, THE RESIDENCE OF THE PARTY OF THE PA

ensorer, en a corpel very delicitely forfed aux oniseles, is

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sola biece of fortung. At A is seen the orofile of the hanner, naif full size. Probably the select was banned in the solors of the sens.

Note 1.p. 88. A kneeder that seems to us to be of the 14 th century, and that comes from a door in a house of vereloy.

Note 2.p. 88. 800 identicable, old. et doo. by MW. verdier & note

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In some 15 hb consury were continued to knockers in the form of the rind or recoer with a weigns at the end, for the doors of mensions and nourse. Phere exist very organy ones of this kind in the messure of the Louve and of Many. Anokers with namers were speciely longer in and expect for the doors of real nable account.

Reperence also racckets at the genes of strong castles. -- "Artan' the knight that knocks at the Arta; and one came out." I

Sacard to postern doors without drawboudles, or to the fatos

note 1.p.85. Lu Shronicle de Bairs (12 th century). Chap.

"diskers nive disappeared from our nouses and manaione to sive class to bells, which have too sivenesse of ecusing the engine bounded in some delived insert desires too door to be opened in the middle of the night.

Just-tele in a dilline in -

From the 11 to mentury there stocks in confeded and castles. Those citors sere denserly olaced in the interior in the free creat oneses of furlibure. The custon sas continued one at the 16 in section. Our bests about our name of the

 hammer no longer moves on the two pins, but is suspended by an eye through which passes a bolt. Before the stem of the knocker, on a corbel very delicately forged and ohiseled, is placed a child holding a shield of arms with vair and charged with a leopard in chief. This little figure is a very remarkabla piece of forging. At A is seen the profile of the hammer, half full size. Probably the shield was painted in the colors of the arms.

Note 1.p.23. A knocker that seems to us to be of the 14 th century, and that comes from a door in a house of Vezelay.

Note 2.p.83. See L'Archit. civ. et dom. by NN. Verdier & gattois. Vol. 9. p.8.

In the 16 th century men returned to knockers in the form of the ring or rapper with a weight at the end, for the doors of mansions and houses. There exist very pretty ones of this kind in the museums of the Louvre and of Cluny. Knockers with hammers were scarcely longer in use except for the doors of r rural habitations.

There were also knockers at the gates of strong castles.—
"Attend the knight that knocks at the gate; and one came out."
But it must be admitted, that these knockers could only be attached to postern doors without drawbridges, or to the gates of external basriers.

Note 1.p.25. La Chronicle de Bains (13 th century). Chap. 31. published from the manuscript of the imperial Library by Lewis. Paris. 1837.

Knockers have disappeared from our houses and mansions to give place to bells, which have the advantage of arousing the entire household if some delayed inmate desires the door to be opened in the middle of the night.

HOPITAL. Hospital. (See Art. Hotel-Dieu).

HORLOGE. Clock.

From the 11 th century there were clocks in churches and castles. Those clocks were generally placed in the interior l like great pieces of furniture. That custom was continued until the 16 th century. But bells announced the hours on the exterior. (Old French poem).

Note 1.p.27. Rutebeuf. Du segrestoin et de la fomme ou chevolier. (13 th century). Villies Darent in the 13 to century in Chanter I of air vort. essets the clock as one of the estendial parts of the course. "Ins clock." saye as, "on which one reals and contro the naues, signifies the promothers and care that the priests must h AND DESCRIPTION AND ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON. deal absording to the word: - "deven times daily have I praired thee. O Lord."

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To vacca and ou sand CAFF about about To sage to too A Clary a clock, reserkable in tout its recommism presented a AND THE RESIDENCE AND PERSONS AND PARTY AND PA nois and minute, and an ecologiastical calendar inst isutenawed the tractivals and the offices of each day. That older forone and to sent the course of the sent to be and the sent that the and the states and liber worsels figures represented the mystery of the Rearrestion. Death. S. Joides and G. Odilon. aboute of Chany, one noiv Virgia, one cassion, etc. Hours were announced by a cock that flatch his wines and oroned twice; vion end becoles the riot a benece lethe us end emag end as Virgin. one Holy Parrit associated on mer beed in form of a dovo. and the Sternel Petwar blessed nor: a marmonious coime

ties end to sermount the clock.

Note 8.p. 87. Blate de l'obboye de Oluny, by W. P. Roroln.

of small bells olayed an air: fanciful animals moved their . printer striket set the se protos in the second test of

loss compleased clocks here in fashion during the 14 to. 15 to and 16 to concorner. Even on one externor, one belis of the clocks were nearly always accompanies or "Jaconsmana," who strack the balls with anwhers. None ball-cours of our oilies of the north, notably that of concerns, have oreserved those dasagaments which enjoy dreat cooliectry. Everyone has seen or meet of the celebrated clocks of the catherials of Twons and of Stramburg. The first internal clock was commenced in 1912 phonometrical of and to removable and at alfill of conduct our it consisted of a case in foinery with a freat disk of moon. -circ ent to recessoring the relative infrostrons of the prior lett a bruch eav fran elettus en BI .alevitash elettus laiois with names wasking the motions of the sun and moon, the nours and tueir sublivisions. The too was occasioned by

William Durand in the 13 th century in Chapter I of his work, 2 regards the clock as one of the essential parts of the church. "The clock," says he, "on which one reads and counts the hours, signifies the promptness and care that the priests must he have to say the canonical hours (prayers) at the required times, according to the word: - "Seven times daily have I praised thee. O Lord."

Note 2.p. 27. Chop. I, sect. 35.

Abbot Pierre of Chastellux about 1340 gave to the abbey of Cluny a clock, remarkable in that its mechanism presented a perpetual calendar, that indicated the year, month, week, day, hour and minute, and an ecclesiastical calendar that designated the festivals and the offices of each day. That clock further indicated the phases of the moon, the motions of the son, and them a number of little movable figures representing the mystery of the Resurrection, Death, S. Hugues and S. Odilon, abbots of Cluny, the holy Virgin, the passion, etc. Hours were announced by a cock that flapped his wings and crowed twice; at the same time an angel opened a door and saluted the holy Virgin: the Holy Spirit descended on her head in form of a dove, and the Eternal Father blessed her; a harmonious chime of small bells played an air; fanciful animals moved their wings and eyes: the hour sounded, and all the figures retired into the interior of the clock.

Note 3.p.87. Hist. de l'abbaye de Cluny, by M. P. Lorain. p. 208.

Those complicated clocks were in fashion during the 14 th, 15 th and 16 th centuries. Even on the exterior, the bells of the clocks were nearly always accompanied by "Jacquemars," who struck the bells with hammers. Some bell-towers of our cities of the north, notably that of compeigne, have preserved those Jacquemars which enjoy great popularity. Everyone has seen or neard of the celebrated clocks of the cathedrals of Lyons and of Strasburg. The first internal clock was commenced in 1312 ind finished in 1354, in the episcopate of Jean de Lichtenberg; it consisted of a case in joinery with a great disk of wood, representing in painting the relative indications of the principtal movable festivals. In the middle part was found a dial with hands marking the motions of the sun and moon, the hours and their subdivisions. The top was ornamented by a statuette

of the Viceia, before which is the nour of noon bowed the searce mean; the cook eroved at the same instant and flapoed ois was replaced in 1717, then rebuilt in 1774; that is the one wanted we see today on the wall of the south transport, conosite the piace reserved for the old clock.

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Note 2.0.88. L'Arch. du ve ou xvile stecte. vol. IV.

On the towers of the 12 to and 13 to canteries no place is arranged for placing dials that can be seen afar; this causes the supportation that before the 1, to capture, if the belies and cates the nour to the innertants of the outies, there were no expected utils. These were not the end of the 1s we century. They are covered by litted hoods, made of wood or lead, and covered by paintings.

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the name of rangion (note) was diven to exhibitions in orderes, these belonded to lords or to rich private man, but which if not have the onargoter of the name, i.e., obsessed no fearal rights.

The residence of the sovereign in earls wal outed and palace. The Loaves was ratio outside the walls and set a cost-let fine other residences of sovereigns elletiaged in Paria that had no fewest character, were no loaver haned catalogs but ashestons. Ven sand tabeling. For, are fournelles. East manerou of Clany, Sens, Sourbon, Voyars, Promoills. At Foorees.

to not confuse the mints of our resters, se maye placed the manerons newween maneron and none being frequently difficult to establish.

arent na vitte. City wall.

to the contact in a cortain number of ciclos, and than and

of the Virgin, before which at the hour of noon bowed the the ree magi; the cock crowed at the same instant and flapped his wings. Small chimes played airs at certain hours. That clock was replaced in 1547, then rebuilt in 1838; that is the one which we see today on the wall of the south transept, opposite the place reserved for the old clock. 1

Note 1.p.88. Besc. abreg. de l'horloge astron. de la cath de Strasbourg. 1847.

There are also seen in the cathedrals of Readvais and of Ro Rheims clocks, whose cases date from the 14 th century. They have both been very well engraved in the collection published by N. Gailhabaud.

Note 2.p. 28. L'Arch. du ve ou XVIIe siecle. Vol. IV.

On the towers of the 12 th and 13 th centuries no place is arranged for placing dials that car be seen afar; this causes the supposition that before the 1, th century, if the bells indicated the hour to the inhabitants of the cities, there were no external dials. These were not seen to appear until about the end of the 15 th century. They are covered by little hoods, made of wood or lead, and covered by paintings.

HOTEL. Mansion.

The name of mansion (hotel) was given to habitations in cities, that belonged to lords or to rich private men, but which did not have the character of the castle, i.e., possessed no feudal rights.

The residence of the sovereign in Paris wal called the p palace. The Louvre was built outside the walls and was a castle. The other residences of sovereigns established in Paris that had no feudal character, were nowlonger named palaces, but mansions. Men said mansion S. Pol, des Tournelles. Laso mansion of Cluny, Sens, Bourbon, Nevers, Tremoille. At Bourges, the residence of Jacques Coeur was an actual mansion. However, to not confuse the minds of our readers, we have placed the mansions in Art. Maison, the difference between mansion and house being frequently difficult to establish.

HOTEL DE VILLE. City Hall.

House of the commune. The political movement manifested from the 11 th century in a certain number of cities, and that had

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anisah to contain toe sapry officials. Alasys when the chara-

the estaunce and a bell tower was included. But until toe 14 th seatory, the communes had to suffer such various chardle, ad--ov aniers reent tent , wordered bedeiloos the verst besident er landle of the city nails procedure that enough the first sor of supportry that applicand and someone being to require the denolities of the city hall and bell towar. "les nistories of the communes," says M. Cramonilion-Pissas, " "spastimas betained to ere kind or the soverends loads, and pertited in sperr ass on orreain constitions. Ta : 771, that of Caroastone cane from a royal gift, and one seneschal evercised there no-Inac of the other of ites povers ad the east of that moneron. dentite in 1975 belonger to the viscoint and his son of the agas, was allowed the consuls to assemble there with the proyest to discuss minimized attains, and it core and dame of consula e. Yet it ad been erected by the commune; but went We are not that the property that ye cannot be a seen as

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note 2.p.se. One will note that the citivens of jarocosonny strings of the size to size to the size of the old optional from king S. Louis permission to rebuild that ofty on the other side of the Alle. (Art. Architecture #illitaire).

The precipitus state of the doubtes, the stall reduces at their disposal for caving all chartes incosed on them, and pitted stop them in their projects for batthing city nells. Yes bertain dreat cities, for thompia like forders, cosseen thiftees built to strve for city nells about the end of the 12 th century. It is certain that the cities of qual situesed south of the Loire had retained, much bester than them there of the north, the manifest thickness of the last the formal and empire. "It was only there," says ". Auf. Thierry, "That the their of the formal stated of the fire interpretation of the follows of the fire of the follows of the fire of the theory, "That the same of the fallows of the follows of the fire of the follows of the follows of the fire and the same of the fallows of the follows of the follows of the follows of the fire for all community these of the south of the follows of the fire as the those of the south of the follows of the fire the fire the fire the south of the follows of the fire the f

as the result of the enfranchisement of the commune, naturally sought to centralize the commune by erecting an edifice s suited to contain the swory officials. Always when the charter of a commune was granted, the right of erecting a house of the commune and a bell tower was included. But until the 14 th century, the communes had to suffer such various changes, authorized today and abolished tomorrow, that there remains very little of the city halls preceding that epoch, the first act of authority that abolished the commune being to require the demolition of the city hall and bell tower. "The histories of the communes," says M. Champollion-Figeac, "sometimes belonged to the king or the sovereign loads, who permitted ththeir use on certain conditions. In 1271, that of Carcassonne came from a royal gift, and the seneschal exercised there police powers in the name of that monarch. That of the city of Limoges in 1275 belonged to the viscount and his son of that name, who allowed the consuls to assemble there with the provost to discuss municipal affairs, and it bore the name of consula e. Yet it had been erected by the commune; but when it was on a site belonging to the viscount, this was the reason why the property was adjudged to him on his demand."

Note 1.p.89. Droits et usages concernant les travaux de construction, etc. sous la traiseme race des rois de France. Paris. 1860.

Note 2.p.89. One will note that the citizens of Garacssonn, driven out of the old city ofter the siege laid by Trincavel, obtained from king S. Louis permission to rebuild their city on the other side of the Aude. (Art. Architecture Wilitaire).

The precarious state of the communes, the small resources at their disposal for paying all charges imposed on them, must often stop them in their projects for building city halls. Y Yet certain great cities, for example like Bordeaux, possessed edifices built to serve for city halls about the end of the 12 th century. It is certain that the cities of Gaul situated south of the Loire had retained, much better than those of the north, the municipal traditions of the last times of the Roman empire. "It was only there," says ". Aug. Thierry, "that the freed cities attained the fullness of that republican existence, that was in some sort the ideal to which all communes aspired." So those cities possessed edifices to which one

vive and name of nail of and objects, so an epoch which in the force men has national date for the patternal date and the courts of the forlows indicate a very early date, but test manipual half was an actual force as from the 12 to century.

Note 3.p. 68. See Pull. de. nop. hist. Feb. 1981. Notice aut

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in the little crow of S. Asconia sivanted in the department of Wern-et-Saroane, a city formerly important and rion, them still exists the city nell of the middle of the 12 th century, then is cerually one of the most carrons civil edifices in France. It served as g a hell in the ground story.

so a fine lian a benistance acre anirota brief bas bacces en? or orner. A worst served as oell toner and progress one side of the fedade. Here (1) as A is the plan of the ground story. The sonos Pastrei for a covera arrivat and communicated with a naries W formerly skisting chara; at P was toe phasade of a p purite street ander the oell court. The statemay for ascending the upper whomes was formerly built at S. but that seains as asstroyed inne since and was rapliced by a sorew stairs as V. The part ander the call tower has suffered some chander to consolidate see dints, voice were mich al sera; but some erces elegate ed as naticalesco evitadiva esa artia satuada 48 E is croced the clam of and accord actry, cooper or and foor ? comma on the old stairs. Ama second stairs con mans soelo cilcad end do cao buthooi E Jenioso & Ens 5 lien & le oy a wigdow 2, and on a principal senere by that at 1. !na find of that cannot is raised several series above that of one ball. The clad C is that of the third story. The entrance abor object formerly pierces at ?', from the capinet W' one as--rue nelocw a vd remot lied ent to Jerrus noten add of beings THE RESERVE OF THE PARTY OF THE pornted tupped vault covering one area a b o d. The principal -inueed a vo beingil vijustuace at vocta booses end at 2 flan fil solognade, elvays arranded to os Flanad.

Te five (2) one elemention of that edofice, whose upuse part alone is modern. I and (3) is a detail of the gradous of the second etary. At A is preced the section of that winner winner will be the floor. Pf. and the arch C of the ground erery. At D we neve

give the name of hall of the commune, at an epoch when in the North men had neither the leisure nor the material means necessary for their erection. Gertain parts of the dapitol of To Toulouse indicate a very early date, and that municipal hall was an actual fortress from the 12 th century.

Note 3.p.89. See Bull. de. gom. hist. Feb. 1851. Notice sur l'hotel de ville de Bordeaux, by N. Lamothe.

In the little city of S. Antonin situated in the department of Tarn-et-Garonne, a city formerly important and rich, there still exists the city hall of the middle of the 12 th century, that is certainly one of the most curious civil edifices in France. It served as the hall in the ground story.

The second and third stories each contained a hall and a ca cabinet. A tower served as bell tower and crowned one side of the facade. Here (1) at A is the plan of the ground story. The space H served for a covered market and communicated with a m market M formerly existing there; at P was the passage of a p public street under the bell tower. The stairway for ascending to the upper stories was formerly built at E, but that stairs was destroyed long since and was replaced by a screw stairs at V. The part under the bell tower has suffered some changes to consolidate the piers, which were much altered; but those changes allow the primitive construction to be plainly seen. At B is traced the plan of the second story, reached by the door F opening on the old stairs. This second stairs consists of a hall S and a cabinet H looking out on the public place by a window R, and on a principal street by that at T. The floor of that cabinet is raised several steps above that of the hall. The plan C is that of the third story. The entrance door being formerly pierced at F', from the cabinet N' one ascended to the watch turret of the bell tower by a wooden stairs, or rather a sort of miller's ladder passing through the pointed tunnel vault covering the area a b c d. The principal hall S in the second story is abundantly lighted by a beautiful colonnade, always arranged to be glazed.

We give (2) the elemation of that edofice, whose upper part alone is modern, and (3) is a detail of the windows of the s second story. At A is traced the section of that window with the floor B. and the arch C of the ground story. At D we have

presented the exterior of a ours (one tried) of the fincon. and at 5 its internal elevation, respect sames and et 2 is fin one apper and lower wooden cross-bars ". The construction of one eatire monument is treated with lare, built in very nord s stone of the country the soulpture is of a refinement and r remarkable purity, all the aculdings caine in excellent saylo and our in perfection. Disces of enameled faisants are inlain no sac stope and ornaviat certifit piras of the focate. On one of the two precs to divide the opening into ence bars is seen a statue of a crowned personade nolding a book in the gight hand, in the left beads a long scenere terminated by sich on the other is a droup of Adam and ave sempted by the sercent. Taces tidares are in high relief and stell, are of D le voscitat castacter and acalesaced with extreme delicacy of Assila. Some nave withed to see Moses, binera raterlenane; a and suill oteers the king contemporary with the monuments. Tita drest difficulty some years store, se were able to discover es and coes book rights of a pripard isseminition.

Note 1.p.81. This edifice was restored under the direction of the Historians. The restoration was however listed to the construction of the rear stairs, to the top of the toper, that threatened rule, and to the renewal of the floors.

288 Arch. oir. et low. of The Veriter and Buttois.

Tote 2.9.91. We hove being that of find only from the of the sect than a that were from 11.8 to 15.7 that items. Items of the first opened on the theory of the first opened on the first opened opened on the first opened opened on the first opened open

Te appear (d); traces, whore meanaind we have been deable to ascurate. Perhaps some archaeologist will be note fortunate then as a find as a first some archaeologist will be note fortunate then as a first as a can a avoor needs, we have see in that struct Obrist as raise; Christ each and Obrist cornects.

First little columns and espirate of the coentral, into entropy columns, into entropy columns and columns and the nation of the nation of the entropy was a place that has always servence of the fround story was a place that has always servence.

inder the arones of the dround story.

If we still see in the north of dersenvent in meleium city and in meleium city and in the those of subsect, lix-la-

presented the exterior of a part (one third) of the windows, and at E its internal elevation. casement sashes shut against the upper and lower wooden cross-bars G. The construction of the entire monument is treated with lare, built in very hard s stone of the country: the sculpture is of a refinement and r remarkable purity, all the mouldings being in excellent style and out in perfection. Dishes of enameled faience are inlaid in the stone and ornament certain parts of the facade. 2 On one of the two piers that divide the opening into three bays is seen a statue of a crowned personage holding a book in the right hand, in the left being a long sceptre terminated by a bird; on the other is a group of Adam and Eve tempted by the servent. These figures are in high relief and small, are of b beautiful character and sculptured with extreme delicacy of details. Some have wished to see Moses, others charlemagne, a and still others the king contemporary with the monument. With great difficulty some years since, we were able to discover on the open book parts of a painted inscription.

Note 1.p.91. This edifice was restored under the direction of the Historical Monumen s. The restoration was however limited to the construction of the rear stairs, to the top of the tower, that threatened ruin, and to the renewal of the floors. See Arch. civ. et dom. of NN. Verdier and Mattais.

Note 2.p.91. We have been able to find only frogments of the those faience dishes, that were from 11.8 to 15.7 ins. diam.

We give here the visible traces of that painting on the two pages (4); traces, whose meanging we have been unable to determine. Perhaps some archaeologist will be more fortunate than we. Without giving here our opinion for anything but a new h hypothesis, we may see in that statue Christ as ruler; Christ reigns and Christ commands.

The little columns and capitals of the opening, its enclosure and the windows were colored; on the walls of the halls covered by plaster, we have been able to prove traces of paintings at two epochs (10 th and 15 th centuries). Behind the portico of the ground story was a place that has always served as a market; formerly one could reach it only by passing under the arches of the ground story.

If we still see in the north of carmany and in Relgium city halls of a pretty early epoch, like those of Lubeck, Aix-la-

Causalis, bails in the 18 to certary, thiss of Predevick, Cacture, workers, Ratiscon, erected dering the 14 to and 18 to centuris, we no longer possess in Friede estitions of that in the first that of 7. Auronia, predering the end of the 18 to century and one certains of the 16 to the cau still stain to century and one certains of the 16 to the cau still stain to centur halls of that soons at Origons, complexed, Saunur, cast cumerrable is destined the city hall of Compended, end-

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winding scarcing in the central part of the front; that stair-say is enough by a very oratin bull toner. In the around sugar, the second and third stories, dreat halis are arranged a strong and left of the central tower. Acove the portal a winds recess has filled by in empertrish spanie of journ 77.

Indoorageding torretaining the sactor of the building.

One will note that this tradition was easin followed in the oray half of same, erected diring the 16 to century and finance dancer denry IV.

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Reveral causes contributed to deprive grench cities noting of the Laire of buildings introduce for maniored meeting. incil the 15 to century, tot enfranchiseners of the corrules, o niod isoldiico a mori duedricoti escasobando den di balbati. - ser shearance an ileast replaced to the been the a to you ner only with very wrist difficulty. Anout the end of one 1? th dentury the piences, either to page one trocean anteoriny, but had been an dreat oirt takun from these by the retminus enteriorments, or to find a point of sconore in takin asternes to infrince on the lay found noner, beend the areacise of incerse caenedral ocurones as dovon, Senius, Sens, fa-THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, WHEN THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER. on, dampent, Acras, Sesuvais, Advices and Poden. to one cotepresidents of water the uroad people and brought and maintained ice more active, as these chifices then seement a comprehen civil and religious. The citizens bulled by the bishops to a assest in one er-otion of the monument, with the samurance & the care monares storic be oven for their assemblies, and erues of seifice learning as a fartheigh end fechater and ornice dependent or dear the royal service had he sae incided.

Chapelle, built in the 13 th century, those of Brunswick, Dantzig, Munster, Ratisbon, erected during the 14 th and 15 th centuries, we no longer possess in France edifices of that ki kind, except that of S. Antonin, preceding the end of the 15 th century and the beginning of the 16 th. One can still study the city halls of that epoch at Orleans, complegne, Saumur, Luxeuil, Seaugency, S. Quentin. The most complete of all and most remarkable is certainly the city hall of Compeigne, engraved with much care in the work of MM. Verdier and Cattois. 1

Note 1.p.94. Arch. civ. et dom. etc. Vols 1.

That edifice is composed of a single building with a grand winding stairway in the central part of the front; that stairway is crowned by a very pretty bell tower. In the ground story, the second and third stories, great halls are arranged a at right and left of the central tower. Above the portal a w wide recess was filled by an equestrian statue of Louis XII. Two projecting turrets flank the two angles of the building. One will note that this tradition was again followed in the city hall of Paris, erected during the 16 th century and finished under Henry IV.

Several causes contributed to deprive French cities north of the boire of buildings intended for municipal meetings. Until the 15 th century, the enfranchisement of the communes, although it had consequences important from a political poin t of view. had been able to establish itself in a permanent man ner only with very great difficulty. About the end of the 12 th century the bishops, either to reconquer the diocesan authority, that had been in great part taken from them by the religious establishments, or to find a point of support in their attempts to infringe on the lay feudal power, began the erection of immense cathedral churches at Noyon, Senlis, Sens, Paris. Amiens. Chartres. Troyes, Bourges, Rheims, Soissons, Laon, Gambrai, Arras, Beauvais, Auxerre and Rouen, to the construction of which the urban peoples had brought an enthusiasm the more active, as these edifices then assumed a character civil and religious. The citizens called by the bishops to a assist in the erection of the monument, with the assurance t that this monument should be open for their assemblies, and long regarded the cathedral as a municipal edifice in those cities dependent or near the royal domain. And we see indeed,

teres vice for airclentse ent. varages at al ena liver and for celiations services, but for collineal and secular assentlies (Art. Catastrale). Thes custom being account, the urcan perples of the north of transe felt less the abed of erection onty mails, the more that ther by experience that those euricipal edifices aroused mastrust in the sovereign lords. The shadow of the cathedral sufficed than I has it was only ng 1452 that Jean of Turkindy drawted ton necessary permission oc outil a city nell at Auxerra. "The lengolfiable," savs Deceio feet of wheeesen tem it near tent lians eron hen" 1. Se tellaneses used floo of religance snew good aciests used in public places or in the onurones, in the onepters of commcoltisa or in religious clousters. Also in coose places mare gold the fostivels, that served for public diversions." Juil sna 16 on century, the extredesi c' ison served as the place of assemplace for the inhapateura of the outy. Assemblias ware nold in the 14 to and 15 to conspose as the case easierly of Auxerra, Paris and of Form rues to recessing to reliberate on public affairs. Those edifices retained something of

es, and even beneath their vaile, and trafficked. The bishops of anterally aroused themselves activate these customs; but it mas only vervinte they some should in destroying them estimately. Honsequently one cannow demand from the Trance of the 12 to, 13 to and 16 ab centuries caose was dunional outlings of the cities of Taily and of at anter they never existed of because they had no reason to exist. At also in those provinces north of the Lits, one sees bailt ander a corerful intends north of the grander of the Lits, one sees bailt ander a corerful intends the grander of the lites ever erected in Christennian at their approach.

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to a secolishment of Paris, for example, it suffices to resident Sauval wrote on anet wis the city half before the middle of the in century. It was only in 12-7 that the peseiver of the sait tax sold to the provost of the necondate, Tolerne warred, the nouse that became definitely the ofth hall. "As for what the tract is for a building," sing Padval, "it was a itetle outpite with two facts and that animals several outpites along the teat animals and the animals several outpites along the sauth and the said several outpites along the sauth and the animals several outpites along the sauth and the said several outpites along the sauth and the said animals several outpites along the sauth and the said the sai

that until the 15 th century, the cathedrals not only served for religious services, but for political and secular assemblies (Art. Cathedrale). That custom being adopted, the urban peoples of the north of trance felt less the need of erecting city halls, the more that they knew by experience that those municipal edifices aroused mistrust in the sovereign lords. T The shadow of the cathedral sufficed them. Thus it was only in 1452 that Jean of Burgundy granted the necessary permission to build aicity hall at Auxerre. "The inhabitants," says Lebeuf. 1 "had none until then; when it was necessary to treat of their affairs, they were compelled to hold their assemblies in public places or in the churches, in the chapters of communities or in religious cloisters. Also in those places were held the festivals, that served for public diversions." Until the 16 th century, the cathedral of Laon served as the place of assemblage for the inhabitants of the city. Assemblies were held in the 14 th and 15 th centuries in the cathedrals of Auxerre, Paris and of Sens, when it was necessary to deliberate on public affairs. Those edifices retained something of the Roman basilica: markets were installed under their porches, and even beneath their vaults, men trafficked. The bishops naturally aroused themselves against these customs; but it was only very late that they succeeded in destroying them entirely. consequently one cannot demand from the France of the 12 th. 13 th and 14 th centuries those vast municipal buildings of the cities of Italy and of Franders; they never existed because they had no reason to exist. But also in those provinces north of the Loire, one sees built under a powerful i impulse the grandest cathedrals ever erected in Christendom at that epoch.

Note 1.p. 95. Mem. pour l'hist. civ. et eccles. d'Auxerre. V Vol. III. p. 319.

To form a correct idea of what was precarious in the municipal establishment of Paris, for example, it suffices to read what Sauval wrote on what was the city hall before the middle of the 14 th century. It was only in 1357 that the receiver of the salt tax sold to the provost of the merchants, Etienne Marcel, the house that became definitely the city hall. "As for what that is for a building," adds Sauval, "it was a little building with two gables, and that adjoined several citi-

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a building in form of a small cassis (for it was necessary to osses unier tes city hall to orose the Orne), whose eastern feeth is opened occousing the great sorbst, what swried as a place for fairs. The building is flanked by four turress and cavered by a nio roof; the bell tover was built at the southwas and ned its windows opened toward the river, or the satist of the arrival of the ships at the north, and at the south toward the meadows. The attnation of this house of the conmine was then one of those best obosed for the merch of the commine was then one of those best obosed for the merch of the commine was then one of those of the commine was the one of those best obosed for the merch of the commine was

Rote 1.p.86. ges Rechercies et ontionitez de lo propince de xoteile.

Note 2.p.98. Notably that of Mertan, and that engroved in focutive to the corr of Boursverille. Fift. of 1882.

The armadernat of the obtaes of the communes from the end of the 14 to century appears to dive been nearly the asta in sea critics of the Vorth from Pioacty to Eutsck. A bell tover cost at the centre of the facate and sas flanked laberally by two frest halls or neastrened the frest building with lateral faciles. The bell tower served as prison of the commune.

cause of belies Refore the facate opened in the ground story

citizens' houses." That fact alone gives sufficient information, that city halls in France differed little for the most part from the houses of private persons, until the 15 th century. Yet Bourgueville 1 claims that the city of gaen possess ed a house of the commune "of very old and admirable construction. four stories high, with flying buttresses founded on p piles in the river, that flowed through three great arches (t (this city hall was built on the bridge S. Pierre); and at r the angles of this edifice and house are four towers connected by battlements, in one of which (the bell tower) is placed a great clock; which house, bridge and river, separate the two sides of the city, so that its four walls commence, end and surround that bridge, formerly called de Darnetal, as found by a certain charter, being in the martyrology or chronicle of the city, of the year 1365." Indeed in the old plans of t the city of Gaen. 2 one sees represented on the bridge S. Pierre a building in form of a small castle (for it was necessary to pass under the city hall to cross the Orne), whose eastern f front is opened opposite the great street, that served as a place for fairs. The building is flanked by four turrets and covered by a hip roof: the bell tower was built at the southwest angle. The hall of the assembly was in the second story and had its windows opened toward the river, on the side of the arrival of the ships at the north, and at the south toward the meadows. The situation of this house of the commune was then one of those best chosen for the merchant and industrial

Note 1.p.96. Les Becherches et antiquitez de la province de Neustrie, now duchy of Normandy, etc.; by Ch. de Fourgueville, lord of Bros. New edit. Coen. 1833.

Note 2.p.88. Notably that of Merian, and that engraved in focsimile in the work of Eourgueville. Edit. of 1838.

The arrangement of the houses of the communes from the end of the 13 th century appears to have been nearly the same in the cities of the North from Picardy to Lubeck. A bell tower rose at the centre of the facade and was flanked laterally by two great halls or penetrated the great building with lateral gables. The bell tower served as prison of the commune, for the deposit of the archives, and for a watchman with a commune of bells. Before the facade opened in the ground story

the portuco area drend state and a lossia or deliver for oublic andoucements. The city of Caneck still possesses the sentine of a view ord, voice in the is to consury was concursa of tirse ereat adjoining baildungs, with three eables and tone front and targe orders on the run. These exoles were oranged by very large mindows mith tracery, that abundantly lighed these three hells. The stand block has bonings by secondary services. It is done of services to recoid ours that the nouses of cities of the Moreo of the 12 th and 14 th centuries occeened their fables to the atreet. This moor are adopted by to: city dalls, and at 3. Caentin also the noise of the comrine, whose erection was in one if to derbury, relains the gr-NAMES OF TAXABLE OF TAXABLE AS ADDRESS OF TAXABLE OF TA . ent lo sempen end no entochy of olde need even en atta sansa communes of series terror and coursected sitted of the Norin, it is possible to present a type of inage enructures, -dered and any other nave been sander to so many alorate ions and capastropies. Finde is would be much too lone and m searmone to dive separately these soartored documents, we MARKET AND AND REAL OF LAW OF STREET AND AND AND AND AND

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Fig. 6 presents the perspective of this enifice.

Fut it insouently occurred heldes are if an oearary, that the best tone best cowers were independent of the city, is detected. That havener, watch dates from the 12 th century, is detected. That of threshes independent of the since of the contact, as well as the source of Occurres and of Occurrent. Willia, is Vol. 5 of his

the portico with grand stairways and a loggia or gallery for public announcements. The city of Lubeck still possesses the remains of a vast city hall, which in the 13 th century was composed of three great adjoining buildings, with three gables on the front and three others on the rear. These gables were pierced by very large mindows with tracery, that abundantly lighted those three halls. The ground story was occupied by secondary services. It is unnecessary to recall here that the houses of cities of the North of the 13 th and 14 th centuries presented their gables to the street. This mode was adopted by the city halls, and at S. Quentin also the house of the commune, whose erection was in the 16 th centurw, retains the orinciple of that arrangement. By combining the scattered documents that we have been able to procure on the houses of the communes of these three rich and commercial cities of the North. it is possible to present & type of these structures, that more than any other have been subject to so many alterat ions and catastrophes. Since it would be much too long and w wearisome to give separately these scattered documents, we have thought that our readers would not object to our combining them, and presenting a complete type of the city hall of the end of the 13 th century.

That is what we have attempted to do in drawing Fig. 5, which gives at A the plan of the ground story of a municipal e edifice, and at B the plan of the second story. Beneath the front portico at right and left rise two stairs and land in the vestibule D, preceded by the loggia E. On, enters the ground story beneath the vaults of the vestibule the prisons F of the bell tower, and by the doors G into the halls intended for the daily services. On the second story, from the vestibule D one enters the room I situated under the belfry, and f from thence the first hall K serving as vestibule to two great halls L, abundantly lighted by the windows M.

Fig. 6 presents the perspective of this edifice.

But it frequently occurred before the 15 th century, that the bell towers were independent of the city hall. That bfaT Tournay, which dates from the 12 th century, is detached. That of Amiens, whose lower part dates in the 14 th century, was likewise independent of the house of the commune, as well as those of Commines and of Cambrai. Millin, in Vol. 5 of his

Aptrolisies altrocales, dives a view of the city oill of the orth of tille, despirened in 1664, and restroiced from a sporing in the latery of 7. Pierre. According to thet drawing

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opor. As the origin thise foundanians someisted is bestowing

Antiquities nationales, gives a view of the city hall of the city of Lille, demolished in 1664, and reproduced from a drawing to the library of S. Pierre. According to that drawing the principal building is without a bell tower, and consists of a three story structure with the two great gables and turrets at the angles. The base of the roof has battlements. Behind the building rises a lower structure with battlements s surmounted by lions and by two statues of savager, one of which bears the standard of the city. These structures, so far as the imperfect drawing allows the recognition, appear to b belong to the 13 th century. If many very old bell towers of .. the cities of the North are detached, that of Bergues S. Wim x, which dates from the 14 th century, is arranged otherwise, c corresponding to the house of the commune of that city, as dodoes that of our Fig. 6. One will note that at Compeigne the bell tower is at the middle of the principal building and on its facade; only it penetrates the great and deep building with two gables placed laterally, yet so as to present in the second story a plan similar to that in Fig. 5.

HOTEL-DIEU. Hospital. Leper Hospital.

Nothing proves that the ancients had houses of refuge for t the sick, where they could receive the care of phnsicians and await their cure. At Athens maimed sildiers were supported at the cost of the republic; 1 but it is not stated tha this aid was anything more than a pension: besides that this fact does not seem to have existed in other cities of Greece. At Sparta, after the battle lost by the Lacedemonians against Antigone, the houses of the citizens were opened to receive the wounded. 2 The Romans in a campaign had places reserved for sick men and horses: but no author mentions, neither at Rome nor in the c cities of the empire, hospitals intended for wounded soldiers or for the sick poor. S. Jerome first speaks of a certain Fabiola, a certain very wealthy Roman lady, who founded about the year 380 a hospital in which were received the sick, previously lying abandoned in the streets and on the public places. In t the first tomes of the middle ages, indeed in the cities of Italy. France and Bermany, there were made numerous foundations for the care and shelter of the sick, travelers and the poor. At the origin thise foundations consisted in bestowing

a house or place mith a percental income. Paracoliv une respter pelagious sateblishments, onapters and even birishes were suardians of the foundation. "The earliest mention of the hose pical Rotel-Ried of Paris," says V. Guerord in his preface to one carbalaries of the cauro of Noure less of Paris, "corrars was in the year 829." Ou Sreuil adoits total this establishment was founded by F. Landry. 28 to bisdop of Paris, about 640. William of Waseis states in the Vie du coi S. Scure, the & this prince considerable enlarged is in 1258. Lebeu? Claims and this monoidal state the mane of A. Christophe in a the 10 th century: he finds no proofs here. To Landy secsoilcost near Moure Daws a least mospital or a nospital. To says, "teat one should distinguish between a nospital, fotel-Disu, ord a learn apportant T nave much Cifficulty in orleaving anse laber massionle were originally mear the originals, waten w dees built in the interiors of others. For desives built could not do wishous, I confust best toey could have been given howspecify in bint quarter unitr bar second race of our kinds. seed to state of the arts are arts of the set of the se

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Pieu." In 1149 ander the episopoite of Warrice de Bally, the name of bets as increased cecause of a scapace of the chapter of lotte Dame. It has beat that all the capons that come to die or resigned their precessor, should give to that

electo of king Paris, so that from the rent of those bouses, of two bouses in Paris, so that from the rent of those bouses,

sick all that came into their desire to cas."

Mete 1.p. 100. Plutoreh. Life of Ecion. Chap. 81.

note 2.p. 100. Justin. Fistorio. Bock 28.

Note 3.p.100. Coll. des doc. inea. aur l'hist. de Pronce.

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Note 5. Flet.de lo ville et du dioc. de porte. vol.7. p. 22.

Jerno the 11 th, 12 la and 12 th ountains, those was fountaid a productions namber of disputains; restly all shoets had a production of laper acspisals outside the otties. "The h

a house or place with a perpetual income. Naturally the regular religious establishments, chapters and even parishes were guardians of the foundation. "The earliest mention of the hospital Hotel-Dieu of Faris," says M. Guerard in his preface to the cartularies of the church of Notre Dame of Paris, "perhaps was in the year 829." Du Breuil 4 admits that this establishment was founded by S. Landry, 28 th bishop of Paris, about 660. William of Nangis states in the Vie du roi S. Louis, that this prince considerable enlarged it in 1258. Lebeuf 5 claims that this hospital still bore the name of S. Christophe in t the 10 th century: he finds no proofs that Sistandry established near Notre Dame a leper hospital or a hospital. He says, "that one should distinguish between a hospital, Hotel-Dieu, and a leper hospital. I have much difficulty in believing that leper hospitals were originally near the cathedrals, which w were built in the interiors of cities. For natives that could not do without. I confess that they could have been given hospitality in that quarter under the second race of our kings. Perhaps." he adds. "that with more profound researches one w would find the epoch of the change from the hospital or house of hospitality to that cathedral to a leper hospital or Hotel-Pieu." In 1168 under the episcopate of Maurice de Sully, the number of beds was increased because of a statute of the chapter of Notre Dame. It was decided that all the canons that c came to die or resigned their prebends, should give to that hospital a furnished bed. Thirty years after that rule, Adam, cleric of king Philip August, made a gift to the Hotel-Dieu of two houses in Paris, so that from the rent of those houses, on the day of his anniversary, there should be supplied to the sick all that came into their desire to eat."

Note 1.p.100. Plutarch, Life of Solon. Chop. 31.

Note 2.p.100. Justin. Historia. Book 28.

Note 3.p.100. Coll. des doc. ined. sur l'hist. de France. Vol. I. Poris. 1853.

Note 4.p.100. Theat. des antiq. de Paris. 1612. Book I.p.74.
Note 5. Hist.de la ville et du dioc. de paris. Vol.I.p.22.

During the 11 th, 12 th and 13 th centuries, there was founded a prodigious number of hispitals; nearly all abbeys had a hospital within their enclosure. Further, there were founded a great number of leper hospitals outside the cities. "The h

rauce of S. Unarra, "seve Lebeuf, lanuar not be redarded as a oslebraced lener nospinal. As moon as the outy of Paris and famous, so was its leper nonnital of its mid. It was in the 12 th centary, that men commenced to have more care to secure eve lepers from the rest of the capola; from the edoca of the origin of all those lever nosorthis newed 8. Lawers, whose consins are still seen near as unitally of market tores and villages of the reals. The reits of runis the Toune, toere was becared Parts and S. Cents a noscioul for lecens, waion constant of a scout of several buts in water they were confined. Odon of Dueli, a mosk of S. Denas, whose ente ne Ass a vingest in see year 1117, on Venterday, June 11, now onis same king, coming to take the standard at 3. Jenie betore scaraing in the crussic? encered that nospital situated on are coute, and took the woulde to visit the leasts in taet? THE CONTRACT OF THE PARTY OF TH o vo becarved sen Aspenden og de ens je ers but medl lessenou see religious of the order of G. Audostine. Ecoer holoidala to ni sonsof to, but sat to sould and at stem COC to seemer and THEY ARE NOT THE WORLD CONTINUES A ST. SAVING ME. STANDARD AT TY AND na cis will of the month of June, 1224. " We shall not sack to agrarlish here nestener istrony and important inco France by cor pressions reduced from Paisstine, or if as claimed by sose adeaurs, that malety already sheeted on the worl of aboth n surpe from the Selvic epoca. That is difficult to deay is. has this on a cerunity similed dinesse, either her or has pelityed contratent, evised over the entire area of arrops en the 12 th sentury, even in sountries that had sent no nerand to Palestine, since according to usersey Paris, there was ce counted no less than 19,000 lever nosurtals in France. Parmany, degland, Italy, Spain, Bracent, Kaltzerland, Ton .. is. clant. Savacta and in the states of Dunmark. Inove escablinaof acre that e decide the cittes. as as have that even anner and consisted of an enclosure in which rose cells, vacy sign! -- 130 E.F. Juste Control Water & course on the Leit - Tale

nosuresis loséed in our brace sear the cere of the instruction of the course of the ceres of the

<sup>90</sup>rt 2, p. 481.

Note 2.p.101. Lotin note.

house of S. Lazare, "says Lebeuf, 1 "must not be regarded as a celebrated leper hospital. As much as the city of Paris was famous, so was its leper hospital of its kind. It was in the 12 th century, that men commenced to have more care to separate lepers from the rest of the people; from the epoch of the origin of all those leper hospitals named S. Lazare, whose remains are still seen near an infinity of market towns and villages of the realm. From the reign of jouis the Young, there was between Paris and S. Denis a hospital for lepers, which consisted of a group of several huts in which they were confined. Odon of Dueil, a monk of S. Denis, wrote that he was a witness in the year 1147, on Wednesday, June 11, how this same king, coming to take the standard at S. Denis before starting in the crusades entered that hospital situated on his route, and took the trouble to visit the lepers in their cells, accompanied by only two persons." This celebrated leper hospital from the end of the 12 th century was governed by t the religious of the order of S. Augustine. Leper hospitals to the number of 2000 were in the states of the king of France in the 13 th century, as proved by & donation made by Louis VIII in his will of the month of June, 1225. We shall not seek to establish here whether leprosy was imported into France by the crusaders returned from Palestine, or if as claimed by some authors, that malady already existed on the soil of western Europe from the Geltic epoch. 3 What is difficult to deny is, that this or a certainly similar disease, either was or was believed contagious, existed over the entire area of Europe in the 12 th century, even in countries that had sent no person to Palestine, since according to Matthew Paris, there were counted no less than 19,000 leper hospitals in France, Germany, England, Italy, Spain, Brabant, Switzerland, Bohemia, Poland. Bavaria and in the states of Denmark. Those establishments were situated outside the cities, as we have just stated, and consisted of an enclosure in which rose cells, very similar to those of the Carthusians with a common chapel. The religious who had the temporal and spiritual care of the leper h hospitals lodged in buildings near the church.

Note 1.p.101. Hist. de la ville et dioc. de Paris. Vol.I, port 2, p. 481.

Note 2.p.101. Lotin note.

sors 3.p.101.See the curious sork of 3. Lobourt. Pecheropes sur l'orifine des lodrertes, polour flos et lepresertes. For-

[v is clear that aronisecture] arrandements had nothing to no with those anclosines with scattered nuts. It is not the seems for the documents. There remain to us from the apoch of the middle ades, and particularly from the 17 th and 18 th o centuries, admirable continues devoked so the stok collected in the monasteries, in the visitity of cethedraly, or even in floringhing cities. Then monastery poseeses its almonars, i.

midule ages, nonvisintly was obligatory. From the Oeriovine an apoob existed temes intended to succept the poor, pildrims and the stok. Chatlemagne in his orginances and exclusives, and recommended to his surjects to offer hospitality, and it was not permitted to refuse travelers shelter, fire and water. The communes emulated the kinds, the lords and simple private

is an easir expense, either in day baildines, or in soundoned edifices, that were restored in view of this purpose. Hospitals were even built in isolated placer to serve as refuges from teastlers, and so protect that from the thirty-s that inference of each founded by combines and roles the refuse builtines were often founded by combines at atom, and delayed the refuse of refuse. Of ones were usually shut at mint, and delayed the refuse of refuse, a sort of free inns, signs in the open sir; bouses of refuse, a sort of free inns, and to remedy that serious inconvenionse and caused the bailtied to remedy that serious inconvenionse and caused the bailtied of a refuse outsite gate 7. Dents at Paris. A is contracted to the contraction of a refuse outsite gate 7. Dents at Paris. A is contracted to the contractions of a refuse outsite gate 7. Dents at Paris. A is contracted to the contractions of the

erect nail of out about the middle of the fround by means of open arches, was built for the noor to sleep the era; it was 140 ft. lone and 35.4 ft. wils? 2 In 1410 the num-

ved and in money from the private purse of the hind of France was accord 500; in the suburns of Faris alone, 48 infirmation consisted by those Gifts. Public and private charity elso known by any to make its and more efficient by founding hospitals for parencial diseases. To Louis Rave the example by causing the arection of a mospital of the liansy for the bitto of Rassing and arection of a mospital of the liansy for the bitto of Rassing

Note 3.p.101. See the curious work of N. Labourt. Recherches sur l'origine des ladreries, maladrertés et leprosertes. Par-

It is clear that architectural arrangements had nothing to do with those enclosures with scattered huts. It is not the same for the hospitals. There remain to us from the epoch of the middle ages, and particularly from the 12 th and 13 th c centuries, admirable buildings devoted to the sick collected in the monasteries, in the vicinity of cathedrals, or even in flourishing cities. Each monastery possessed its almoners, i. e.. persons charged with exercising hospitality. Buring the middle ages, hospitality was obligatory. From the Carlovingian epoch existed taxes intended to succor the poor, pilgrims and the sick. Charlemagne in his ordinances and capitularies, had recommended to his subjects to offer hospitality, and"it was not permitted to refuse travelers shelter, fire and water."1 The communes emulated the kings, the lords and simple private men. in works of benevolence. Many cities established hospita is at their expense, either in new buildings, or in abandoned edifices, that were restored in view of this purpose. Hospitals were even built in isolated places to serve as refuges f for travelers, and to protect them from the thieves that infested the roads: these buildings were often founded by cenobites under the care of the religious. Cities were usually shut at night, and delayed travelers were compelled to pass the n night in the open air: houses of refuge, a sort of free inns. arose not far from the gates." In 1202 two German nobles desired to remedy that serious inconvenience and caused the buil ding of a refuge outside gate S. Denis at Paris. A site containing about three acres was rapidly covered by buildings. A great hall of cut stone erected at the middle of the ground by means of open arches, was built for the poor to sleep there; it was 140 ft. long and 38.4 ft. wide? 2 In 1310 the number of haspitals, infirmaties and leper hospitals that received aid in money from the private purse of the king of France was about 500; in the suburbs of Paris alone, 48 infirmaries benefited by those gifts. Public and private charity also knew how to make its aid more efficient by founding hospitals for particular diseases. S. Louis gave the example by causing the erection of a hospital of the Eighty for the blind of Pa-

Pages; wukhook maaktoon. 4 too lever nostitala, where wire itfor some interes nouncing for the lame, idiods, occurrence men, and maternity, the confragerities also desired to hive oners nouses of refine and hoscitais, and fundly, during the postilences that desplayed the entitle of the mattle ages. 013noor and lay loads loaned places celondend to their residences for the orre of the sick, and frequently unersalves also destes sailt to agent to anticorit on alles to every article and is namberies abusis fait bark bint scoon, is made of recode aiged that all, small and dusat, souths so mitted the fare of the sufferred classer by the most efficient testes, and the gt the spirit of charley was dever more active than in those grace. It must be spaced, past frequencly a certain locd the touro ou a siste and dying, diction all the bound at my ni ent and a ci isvelfer ed tiuco and team refein ego. pages stated by aim. The middle sees are so made; they are an animited maxine of good and still so that there is much tailskips in presenting that spone as a circ of constitute in sery, as an age of living fifth, cuttity and richom. Everyacetrained and board be first speed about the form to AT THE RESIDENCE OF THE PARTY O

fire word fraterity is not alone in subsect, but everywhere finds creational souldering, and if pussion or interest to decountly infrite tate stored law, at least its principle is never scoraeds in face, our great charitation in an well can to us from the midule sees and survive then; it is no well to not forest this too made to another or the fine too made to another or interest to be intuited to be intuited to be intuited to the midule of the miscrable sile.

Fore 1.p.132. See Drofts et usoées, etc. by Chowpollian-Fi-

note 2.p. 102. See the some.

'no fill understand that among so many emines errored under the inspiration of living observe, desiring as once to a copy a resedy to the evil, many mare mersly mad novels, house as that were assideed eood or bad to the service of the poor industry; for a number of those reflages consisted of a coup diven by a simple office with an income received from bis o copperty. Apalually these modest donations extended and were surriched by collections, becomes income extended and were

Paris: without mentioning the leper hospitals, there were founded in many cities hospitals for the lame, idiots, poor old men. and maternity. The confraternities also desired to have their houses of refuge and hospitals, and finally, during the pestilences that desolated the cities of the middle ages, bisnops and lay lords loaned places belonging to their residences for the care of the sick, and frequently themselves also desired to assist them. Beside the disorders of every nature am the numberless abuses that mark that epoch, it must be recognized that all, small and great, sought to mitigate the fate of the suffering classer by the most efficient means, and that the spirit of charity was never more active than in those times. It must be stated, that frequently a certain lord that founded ashospital when dying, during his life had caused more misfortunes than could be relieved in a long time in the house erected by him. The middle ages are so made; they are an unlimited mixture of good and evil; so that there is much injustice in presenting that epoch as a time of continual misery, as an age of living faith, charity and wisdom. Everywhere beside an evil or monstrous abuse will be found the feeling of right, respect for man, for his misfortunes and weakness. The word fraternity is not alone in speech, but everywhere finds practical application, and if passion or interest too frequently infringe that sacred law, at least its principle is never scorneda In fact, our great charitable institutions came to us from the middle ages and survive them; it is well to not forget this too much: having profited by the good part of the heritage, perhaps it would be just to be indulgent to its miserable side.

Note 1.p.102. See Droits et usoges, etc. by Champollion-Fiseac. p. 166. Paris. 1860.

Note 2.p.102. See the some.

One will understand that among so many edifices erected under the inspiration of living charity, desiring at once to a apply a remedy to the evil, many were merely mud hovels, houses that were assigned good or bad to the service of the poor and sick; for a number of those refuges consisted of a house given by a simple citizen with an income received from his p property. Gradually these modest donations extended and were enriched by collections, becoming important establishments.

sa rabra shill remarkate from the coint of view of are. 'ell only, woll ventitled and sugarous, they also have intended and sugarous of recoint a large of some to are, of not depressing to a some of the coint and desolute accessments, and the chiffice of carrier is our time (with rare exceptions).

single properties of vincennes on sof verine. The hospital of corestin, those of vincennes and of verinet are not only properties for their purpose; but also as works of architecture, these are node to give the sick ideas rather pleasant than floony.

tand the place cospicate that the live and presence west ce crest that of Onarthos, located mark the backethal, and & one noscitat of Angers. For lattic is carticularly reparable for iss extent and by the services that sarround it. Mare is the clan.(1). It consists of a Print hall A with tures sistes. preceded by a clubater, an atjacent chapet P. loadings now u ased for other parcoses, and a vast secretages or granger n sured to some provisions of all kinds. The construction of this especialment dates from 1457. The observing a little are modern (1174). Also about the task cook as creeted ten orest burraide for crovianing. Fig. 2 presents a cross section of the great half, in which four rows of best south eaglier fire otaces. The coastica of tasse builtiese is excellent. prested with oate, the confine of the orers being in an exceellegt style. The outline for provisions is an edifice rengr kapis for the strangement and details.

Kote 1.2.10x. See Arch. clu. et dem., by MM Verdler ond 30%-tota, Vol. II.

ind nosmical of Spartres dates at nearly the same accor nor

scope vanits cover are last bays. Into is an arrangement and each sous to that of the hospital of Angers, and that appears to have been generally followed during the 12 to and 13 to centeries.

In one abbay buildings of S. Josu-des-Vignes of Soissons and

Yet there still remain to us some hospitals of the middle ages, that are remarkable from the point of view of art. Well built, well venticated and spacious, they also have this advantage over the similar ones that we build generally today, of leaving a large place to art, of not depressing the sick by that cold and desolate appearance, which characterizes a public edifice of charity in our time (with rare exceptions).

Note 1.p.103. It is necessary to recognize that recently & great progress has been made in this line. The hospital of Charenton, those of Vincennes and of Vezinet are not only perfectly appropriate for their purpose; but also as works of architecture, these are made to give the sick ideas rather pleasant than gloomy.

Among the oldest hospitals that still exist in France must be cited that of Ghartres, located near the cathedral, and t the hospital of Angers. The latter is particularly remarkable for its extent and by the services that surround it. Here is the plan. (1). It consists of a great hall A with three aisles, preceded by a cloister, an adjacent chapel B, lodgings now u used for other purposes, and a vast storehouse or granary C. suited to store provisions of all kinds. The construction of this establishment dates from 1153. The chapel is a little more modern (1184). Also about the last epoch was erected the great building for provisions. Fig. 2 presents a cross section of the great hall, in which four rows of beds could easily find places. The construction of these buildings is excellent, treated with care, the capitals of the piers being in an excellent style. The building for provisions is an edifice remarkable for its arrangement and details. 1

Note 1.p.104. See Arch. civ. et dom., by NM Verdier and Cattois, Vol. III.

The hospital of Chartres dates at nearly the same epoch and today consists of a great hall with three aisles, separated by two rows of columns and bearing a roof. At the rear three stone vaults cover the last bays. This is an arrangement analogous to that of the hospital of Angers, and that appears to have been generally followed during the 12 th and 13 th centuries.

In the abbey buildings of S. Jeau-des-Vignes of Soissons and of Ourscamp are still seen beautiful halls that were devoted

no yes this. The erll colled thes of the dead of Carsower is the east tender the collection of all those hosping less servers. The deat is always a great interior divided in three sameles, that of the mindle ceind wider than the two osmothers; one whole is covered by order veults and a vast atticate. The cease of the oten of that acid is and a vast atticate.

probably served as kitched and laboratory: Did. 4 is a transverse section of the errat hall for the sick, and Fig. 5 is o
one of ies have. The mill occerve that the windows are seranase to five hach large in the interior; the doner ones being
when fives piece, while we lover can ober to ventile the
half. Foccestes so the serundenest cenerally account the plan
coon, it must have four rows of beds arranged as on the plan
indicated as h; the half could easily contain 100. Along the

retius of the assider planted the reverses or ireasines for the suck. A free fireelene opening against the cermins sanivetion and werrand of ours vest interior. The bushing and its annex are decaped. Include and its annex are decaped. Include and its annex are decaped. Include and its annex are decaped. Included as a few few firees and its annex are decaped.

ed by a little cassade d. We estine surposed added from the fired years of bee 18 in condant, and the interior was painwed with notice, the arches see the entrovinte of the hortoned are entrovinted of the Archibes des nonuments historiaess, published by order of the nintater of stole; olso the work of MK. Tordter ord coltole. . ecolously cited. Vol. II. D. 104.

In Ass. Monaconocion, Piá. 163 and following, we have dayan a ranidant accedent on the sheep of S. Marie de Present.

a part which earled as the anview for the poor. Mearly all ab
a. not a root possessed out thes sufficiently vant to afford a

an arylum for travelers, or even actual dospiests, take that

these that of Caracano.

Sote 1.p.107. The other of Curecomp now belongs to M. Pelo-ne-Delocour, who fortunately preserves with particular care

Ind oity of Tonnerre possessed already in the 11 th consurv e noseifal situated ossive the caused dotre dame, according to otston, and these served as chapel of this establishments, another noseital, also of the same oppose, existed in the edoto the sick. The hall called that of the dead at Ourscamp is the most beautiful and the best understood of all those hospital structures. This is always a great interior divided in three aisles, that of the middle being wider than the two others; the whole is covered by cross vaults and a vast attic.

rig. 3 presents the plan of that hall with its annex, that probably served as kitchen and laboratory: Fig. 4 is a transverse section of the great hall for the sick, and Fig. 5 is o one of its bays. One will observe that the windows are aeranged to give much light in the interior; the upper ones being with fixed glass, while the lower can open to ventilate the hall. According to the arrangement generally adopted at that epoch, it must have four rows of beds arranged as on the plan indicated at A; the hall could easily contain 100. Along the walls between the columns are pierced small recesses at the height of the hand for placing the beverages or dressings for the sick. A great fireplace opening against the gable wall B permits sanitation and warming of this vast interior. 1 The building and its annex are detached. The gable wall 6 is near the transept of the church, with which it probably communicat ad by a little passage H. The entire structure dates from the first years of the 13 th century, and the interior was painted with red joints, the archivolts festooned with little arches.

Note 1.p.106. For fuller details, see the engrowings of the Archives des monuments historiques, published by order of the minister of State; also the work of NN. Verdier and Cattais previously cited. Vol. II. p. 104.

In Art. Construction, Fig. 123 and following, we have given a building dependent on the abbey of S. Marie de Breteuil, a part which served as the asylum for the poor. Nearly all ababbeys thus possessed buil ings sufficiently vast to afford a an arylum for travelers, or even actual hospitals, like that great hall of Ourscamp. 1

Note 1.p.107. The obbey of Ourscomp now belongs to M. Peigne-Delacour, who fortunately preserves with particular care those remarkable remains.

The city of Tonnerre possessed already in the 11 th century a hospital situated beside the church Notre Dame, according to custom, and that served as chapel of this establishment; another hospital, also of the same epoch, existed in the sub-

source of Suncherants. "The decendances of that lette dark cases." A little dark cases. In 1704 dudes TIL. cases. In 1704 dudes TIL. like of Encharg, Younded in the seme city to accusal of F. cases of Encharge Younged in the seme city to accuse of F. cases of Partherite of Partholice was cased of Farthy. desired to ender the city of Fartholice was cased of Farthy.

closing dear a soring demen Tontenille, along the Arteleon as end the mulls of the city. In the deed of foundation, it is standed that the upon mult be intend in the establishment, the contractable per red for seven days, and salt day with a solint, cost and sales; that a chappel is to be britt with four atters; that the process and sisters to the number of 20, contends it in the case of the identity with a service of the case of the

sick, console prisoners and bury the dead; that one brothers and subjects shall have separate from the sed refectories, and subjects shall have separate from the sed refectories, and shall only take that mains after serving one sick. The abstract as rovally erected, and Marguarite caused to be ontite ocused to be ontite ocused to a consist serving as as to be note nerself to supervise near astablishment; and untite and 1870; the builtings and stand dense from the consistences and altered the same dense from the same and one shall be tracted and and shall be the tracted that and shall be tracted to the process of the same she can be the same and despite of the same she same that and despite and a chapet.

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Fig. 6 oresents the nien at the scale of 1: 100. At A is also every half, formerly especied by a mosch P also seales, a about carpost as shall inducate. First half contained 40 calls alone marginals, a sort of alcoves in sean of which was placed a bed. (Wee at 7). At D was a principal alser haneauth the tomb of the fouginess was at F and consisted of a crost figure lying on a surcoonseus. The sand consisted of a crost was at 7. At H a rood screen was pisced before the choir, and connected two lassest daileries, that established a continuous assesse above the alcoves, sitosing the occannot of the animages above the alcoves, sitosing the occannot of the animages above the alcoves, sitosing the occannot of the animages above the alcoves, sitosing the occannot of the animages above the alcoves, sitosing the occannot of the animages.

suburb of Bourberault. "The dependances of that hospital." s says M. Yamille Dormois, 2 "consisted only of a little dark c chapel. a very small house and a garden." In 1204 Eudes III, duke of Burgundy, founded in the same city the hospital of S. Esprit: but Marguerite of Burgundy, sister-in-law of S. Louis, and oneen of Sicily, desired to endow the city of Tonnerre w with a magnificent hospital. In 1293 she purchased a vast enclosure near a spring named Fontenille, along the Armencon a and the walls of the city. In the deed of foundation, it is stated that the poor will be lodged in the establishment, the convalescents be fed for seven days, and sent away with a shirt. coat and shoes; that anchapel is to be built with four altars: that the brothers and sisters to the number of 20, c charged with the care of the interior, shall have as mission to give to eat and drink to those hundry and thirsty, receive pilgrims and entertain them, to clothe the poor, visit the sick, console prisoners and bury the dead; that the brothers and sisters shall have separate dormitories and refectories. and shall only take their meals after serving the sick. The hospital was royally erected, and Marguerite caused to be built beside it a house, so as to be able herself to supervise her establishment: when she died in 1308, the buildings and their dependances had already been long completed. There remain to us the great hall of that hospital and some dependances, and our readers will probably not dislike to have given to t them the entirely and details of the principal part of that g great hall, at the same time a hospital and a chapel.

Note 2.p.107. Notes Bist. sur l'hop. de Tonnerre. Auxerre. 1853.

Fig. 6 presents the plan at the scale of 1: 100. At A is the great hall, formerly preceded by a porch B with stairs, w whose purpose we shall indicate. That hall contained 40 cells with wooden partitions, a sort of alcoves in each of which w was placed a bed. (See at C). At D was a principal altar beneath the vault, and at F were two chapels likewise vaulted. The tomb of the foundress was at E and consisted of a bronze figure lying on a sarcophagus. The sacristy of the chapels w was at G. At H a rood screen was placed before the choir, and connected two lateral galleries, that established a continuous passage above the alcoves, allowing the opening of the windows

and overseered the inversors of the exile. One and accept to and you have by the lacerel states of the parot and by the spended I. was an communication with a gallery connection nue nouse of the queer with bee great nell. From her scentmoits in the second story of that house, this crincess could trus either descend into the mall, of insult sne ceils of malking on the fallery that they supported. At 7 Mas a little anapal. The buildings for the service of the nospital are sigusted at K and the kitched at V. Communication from those our parties V viellas reajons to suche vo era fina sus anily stored end ser 9 JA . O da serset masses at 0. It see the pewerery; as J the surion of the outen, bunded by the mall of the city and by the stream of Wontenile. to 3 the laudtr: to V a branch of the Armheode, and as & the priory. Two suct--TEO lied Jean's and it sates CWJ becale Adianed stance of nation stad into one river all seasee from one establishment. Beardes to entry of the city, ramparus surroupies the other perus of the enclosure. At X was the public well.

Note 1.p.109. The occounts of 15%, occording to that excel-

costoned by rebuilding one of those golleries.

10 sous for making the great gollery of the soid hospital, 1
122 ft. long onl 10.2 ft. wide. To bicolos, mason, for build—
ing the masonry to support the posts of the gollery. To Jahon
and Pierre, es Nothleux, reofers, the sur of 8 livres 13 sous
for covering the statrucy of the soid gollery. To Johan, merchant, for transork for the doors of the hospital and the rofters of the great gollery, sto.

terior, that is no less was 61.0 ft. wise inside by 282.7 ft.

lend from the parce to the sanctuary. The section (Fig. 7) a
shows at A the alcoves with an upper fallery 3, passing over
the rood screen. One perceives three abses at the back. The
parpentry is of out, well preserved and with timbers of extraorainary lendth; the tressame in one pince are 70.2 ft. lene;
the principals and trussed refeers are 62.4 ft. It is entirely
selled with a round tunnel contine stiently decressed in the
selled with a round tunnel contine stiently decressed in the

and overseeing the interiors of the cells. One could ascend to the galleries by the lateral stairs of the porch 1 and by the stairs I, that was in communication with a gallery connecting the house of the queen with the great hall. From her apartments in the second story of that house, this princess could thus either descend into the hall, or inspect the cells by walking on the gallery that they supported. At Z was a little chapel. The buildings for the service of the hospital are situated at K' and the kitchen at M. Sommunication from these buildings with the hall was by means of another gallery N ending at a little door. The public street passes at O. At P was the cemetery; at J the garden of the queen, bounded by the wall of the city and by the stream of Fontenille. At R the laundry: at V a branch of the Armencon, and at S the priory. Two subterranean sewers passing along two sides of the great hall carried into the river all sewage from the establishment. Besides the walls of the city, ramparts surrounded the other parts of the enclosure. At X was the public well.

Note 1.p.109. The accounts of 1556, according to that excellent work of N. C. parmois cited above, presents expenses occosioned by rebuilding one of those galleries.

upoid to Jehan Besmaisons, carpenter, the sum of 31 livres
10 sous for making the great gallery of the said hospital, 1
128 ft. long and 12.8 ft. wide. To Nicolas, mason, for building the masonry to support the posts of the gallery. To Jehan
and Pierre res Nathieux, roofers, the sum of 8 livres 13 sous
for covering the stairway of the said gallery. To Jehan, merchant, for ironwork for the doors of the hospital and the rafters of the great gallery, etc.

Fig. 7 gives the transverse section of this magnificent interior, that is no less than 61.0 ft. wide inside by 288.7 ft. long from the porch to the sanctuary. The section (Fig. 7) s shows at A the alcoves with an upper gallery B, passing over the rood screen. One perceives three apses at the back. The carpentry is of oak, well preserved and with timbers of extraordinary length; the tiebeams in one piece are 70.2 ft. long; the principals and trussed rafters are 62.4 ft. It is entirely ceiled with a round tunnel ceiling slightly depressed in the interior. At C we have traced one of the trussed rafters and at D the section of a bay of the carpentry with the ceiling

and the ventilizors ? with 4 ins. spenings. The side sinloss

sormanns of the commed area, and steps are pieced at the sail permittied one to dram the bolts. This inserior exists nearly intect, except the porch, and produces a dramb effect. It is one of the most beautiful examples of civil architecture.

one entire influence of the commission of miscorical minaments to colain its preservation from the city of Tonnerse mastre to arnolish this edifice? Inc woodeld decobably have much difficulty to learn. Thy difficulty

efifices of the Penalskapes? How many ofthes mithout any ser-

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mose cors of varialism, and men were asconished that travelers passed with inclinerate through the minst of their new sireets, not even fiving a flance at the columnsr facene of the patient of the columns facenes, and the patient of the columns for a barrack.

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mons volume of air contained in the hall, and received light from the lateral windows; and near oping placed newt the wall-no end the railbery, he could not

object that the ventilition of these orits was inductions; but the half outy contential 40 bats, the lateral mindows could be opened, and the interior being very him, ventilized by he hales have in the certainty ceiling, one can admit that the conditions of section were good.

To show our readers the arrandement of the beils and delle-

ins anndows of the dalivey beand filled with dringills class.

and the ventilators E with 4 ins. openings. The side windows with tracery are arranged to be opened from the bottom of the springing of the pointed arch, and steps are placed at the s sill permitting one to draw the bolts. This interior exists nearly intact, except the porch, and produces a grand effect. It is one of the most beautiful examples of civil architecture of the end of the 13 th century; nothing less was required than the entire influence of the commission of historical monuments to obtain its preservation from the city of Tonnerre. Why did the city of Tonnerre desire to demolish this edifice? One woould probably have much difficulty to learn. Why did the city of Orleans demolish its old hospital, one of the most beautiful edifices of the Renaissance? How many cities without any serious reason have destroyed monuments that proved their age, t that gave them a particular interest, and that retained strangers within their walls? Much regretted a little late were t those acts of vandalism, and men were astonished that travelers passed with indifference through the midst of their new streets, not even giving a glance at the columnar facade of the palace of justice, or the facade of the new hospital, easilv mistaken for a barrack.

The arrangement of the beds of the hospital of Tonnerre, each placed in a cell with upper service gallery, merits our careful attention. Each invalid, being subject to the oversight so much easier because exercised from the gallery, found himself in possession of an actual chamber. He benefited by the enormous volume of air contained in the hall, and received light from the lateral windows; his head being placed next the wall and sheltered by the projection of the gallery, he could not be wearied by the brightness of the light. Perhaps one would object that the ventilation of these cells was imperfect; but the hall only containing 40 beds, the lateral windows could be opened, and the interior being very high, ventilated by h holes made in the carpentry ceiling, one can admit that the conditions of sanitation were good.

To show our readers the arrangement of the cells and galleries of supervision, we present (8) a perspective view of one bay of the hall.

The windows of the gallery being filled with grisaille glass, those of the sanctuary had colored glass. A tall spire of car-

overest and fildes, and was only deserved in 1792. The entermines of anameted terms cover.

by the square stairs built on the north beside one of the same chart on the coevet, one research the same that built over that chart and formerly serving, as it still does today, for tressury and accouves. The tympsom of the orinarcal door opening under the octob next the street was decorated by a colder representing the last juddement, several fregrents of w

Note 1.p.114. To M. Lefort, crohitect of Sens, we owe winute measurements and drowings of this great hold of the hospitol of Fonnerre. M. Lefort had the courtssy to place all his drowings at our atspace.

-piv even seoffice blo too oi betastedor Jahwemos stond Ila used the caucains computed of seame, founded in 1442 by Nicolas Rolln. onencellor of the dake of Burdandy. That estimated sewent is nearly as the is century left in to us, although e sanitified some to some of Joseph and Street Trac Scop ag process around a rectangular court. In the rulling next the spread as placed and great pail with ats chapel as the end. -rve cor sed as to the and a solve trade at a select a accordance sions. The other two buildings, before which a sales a salesor in bro accres, contains one appirtance of the elaters, tosee halls, the kittered and the presents, from carpe try time oles are clased and civa trent in the nalls above the externaal galleries, while the ventulation is made, or sea wills sod the coosine siles. (Res Aron. siv. et don. of NT T Versier and Caucous. Vol. T). The court of this establishment with a plugger appearance, well proportioned, sail so than i-- de . de coe de contrary, its lavetory and colors de wost proidess one vish to fall all at Readne. The doorway on wis street is before to be so be to be before it is enter and aldered with a male

vias the trib are to a court at the principal avairant services the court at the entrance; at R a service bassaic; at C the rest ball i all its the court of the court at C the the the the capacity of the court at C the the the court of the court at C the the court of the court at C the the court of the

carpentry surmounted that sanctuary; it was covered by lead painted and gilded, and was only destroyed in 1793. The entire carpentry of the hall is roofed with glazed tiles and crestings of enameled terra cotta.

By the square stairs built on the north beside one of the two chapels of the chevet, one reached the waulted hall built over that chapel and formerly serving, as it still does today, for treasury and archives. The tympanum of the principal door opening under the porch next the street was decorated by a relief representing the last judgement, several fragments of w which exist. 1

Note 1.p.114. To N. Lefort, architect at Sens, we awe minute measurements and drawings of this great hall of the hospitof of Tonnerre. N. Lefort had the courtesy to place all his drawings at our disposal.

All those somewhat interested in our old edifices have visited the charming hospital of Beaune, founded in 1443 by Nicolas Rolin, chancellor of the duke of Burgundy. That establishment is nearly as the 15 th century left it to us, although in good part built of wood. It consists of three buildings e erected around a rectangular court. In the building next the street is placed the great hall with its chapel at the end. the porter's lodge and some vaulted rooms intended for provisions. The other two buildings, before which extends a gallery in two stories. contains the notitiate of the sisters, three halls, the kitchen and the pharmacy. Great carpe try gables are glazed and give light in the halls above the external galleries, while the ventilation is made by the same galleries and the opposite sides. (See Arch. civ. et dom. of MM V Verdier and Cattois. Vol. I). The court of this establishment with a pleaseng appearance, well proportioned, still contain ng its well of the 15 th century, its lavatory and pulpit, almost produces the wish to fall ill at Beaune. The doorway on the street is protected by a hood of carpentry covered by slates. (Art. Auvent).

We give (9) the plan of the hospital of Beaune, and (10) a view of the angle of the court at the principal stairway serving the two stories. At A (see plan) is the entrance; at B a service passage; at C the great ceiled hall with its chapel D, now supported from the hall; at E is the reflectory of

The provisions, as C the notities of the sistems; as H the rooms for provisions, as C the notities of the sistems; as H the natis of the sistems; as H the nation of the sistems of the sistems of the sistems of the palets as D, the palets as H and the languages of the palets as H and the languages.

the coult and destroye the groud appearance of the holl.

Let us now evamine one of those more modest establishments.

In from the frest oseries, near some sone of the originals of the mere so much seathered over France soil in the mistle ages. Het us eased the infirmary called du Fortair, not fir from the road that leafs from the road that leafs from the la Fere. Te shall find

banders. The indicesers of formats, we believe, usees less the tures hate of and 14 to centary. The abticety of the establfigure is conserved in a series and swift are three baildand le list ent as A . (it) nerrostranco lo monos dent lo com sick: S is the desual: G a building of two stories, probacoly for the religious and for the kiconen. The other ballounds mor egiseing within the enclorers are of outre recept habe. Det es cocer surselves with that had a to ende ere cores of the deals wells with fireplaces. To the court in the instrand an derein north pendoot with and stade conscions and he corside; on that from are no other countrie execut two retred . o thens. Perore this wide doorway was suspensed a strongly p - non end the seesat and vo seeffit and in) loom tens theres; or tises of the oscoentry), that merved to analise the carriages ceingine one sisk. For orignery use men sere contented to use the little door. In the contrary, on the exterior said of . noch election the bisk was cieded by two tiers of wide winnows, so errandel ecent or reiniz, slico neboow ent bornbil wer rerol our tenof tre boxuetal of Tounaces, and the door series occaed on CHICAGO TO THE PARTY OF THE PAR

I (see olen) without a window. At Tonnerre the distance between street is 12.3 ft.; the same distance between the axes of alterraces of the nell of Tortoir (see Fig. 12, one andle of titions of three cells to be of the same depich as those of the increase of the axes of

es or ene buttredees, the hall being 22.5 ft. wide, there com-

the sisters and the parlor of the superior; at F the rooms f for provisions; at G the novitiate of the sisters; at H the halls of the sick; at I a passage opening on a garden; at K the kitchen, and at L the pharmacy; the well is placed at O, the pulpit at M and the laundry at P.

Note 1.p.115. & coiling of boards has been placed beneath the boult and destroys the grand appearance of the hall.

Let us now examine one of those more modest establishments. far from the great centres, near some abbey or some priory, that were so much scattered over French soil in the middle ages. Let us enter the infirmary called du Tortoir, not far from the road that leads from Laon to la Fere. We shall find there the curious internal arrangements of the hospital of Tonnere. The infirmary of Tortoir, we believe, dates from the first half of the 14 th century. The entirety of the establishment is constructed in a square and still has three buildings of that epoch of construction (11). A is the hall of the sick: B is the chapel; C a building of two stories, probabbly for the religious and for the kitchen. The other buildings now existing within the enclosure are of quite recent date. Let as occupy ourselves with that hall A. Its tuo ands are closed by two gable walls with fireplaces. To the court in the interior of the enclosure opens the wide doorway with wicket at the side: on that front are no other openings except two raised windows. Before this wide doorway was suspended a strongly p projecting shed roof (if one judges by its traces and the mortises of the carpentry), that served to shelter the carriages bringing the sick. For ordinary use men were contented to use the little door. On the contrary, on the exterior that hall of the sick was pierced by two tiers of wide windows, so arranged that the lower row lighted the wooden cells, similar to those of the hospital of Tonnerre, and the upper series opened on the gallery, to which one ascended by a stairs arranged in bay I (see plan) without a window. At Tonnerre the distance between partitions is 12.8 ft.; the same distance between the axes of buttresses of the hall of Tortoir (see Fig. 12, one angle of the front of the hall on the external side). Assuming the partitions of those cells to be of the same depth as those of the hospital of Tonnerre, and placing seven partitions in the axes of the buttresses, the hall being 32.8 ft. wide, there rempegggrad 19.7 hts. Pos desert on the alles side and adente one calls (see plan), and one could obase seven beds in their one namer of seven beds is very frequently accorded in anous and namer of seven beds is very frequently accorded in anous less mest cancell one infirmate its mest exceptible askablishments. If we peopli one infirmate necessary reserved for those lit of contacting to a secondary manual preceditions were baxed, not this to a secondary to a secondary mest from the notation also to isolate user from the notation also to isolate user from the contact of a slad to isolate user from the first readed to see the company of colls and for allows, the class poor pessons to see the company and the first rays of the sun, for

en blians laside, so as to avoid too dreat hist. A defensive agliery miss macalcolations connected the pullators and was in communication with the laserphal daltery by hoors placed in the stole valle. A disch surrounded the enclosure, as one can respond by extributed the external substructors of the dreat bail. The respond the bons of the four threshes only by the fallery and by lasters placed in these servins for tableace.

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The michls sees the exhibited in the composition of those exhibited to be exhibited to the commences of religious monaments. The commences it is a singular prejunted to be so willing that those event exits smooth have open so single, when is colorrish the effection of chordres, and as the sole into so clarky when is referred to the building of sivil edifices. It was not their referred to the building of contary nave been descrived and of those behaviors sential earlier estantial contents and the entire estantial soles in the entire setantial soles in the entire estantial contents and contents the state.

that no lorder had a resuon for existence, since in his time, there were no lepers to be cared for; but this is not to ear that the hospitals of the 17 th contary were models to be followed in regard to arrangement, from one point of view of sag-

remained 19.7 ft., for passage on the entire side and outside the cells (see plan), and one could place seven beds in them. the stairs of the gallery taking the place of one cell. Now t this number of Seven beds is very frequently adopted in these little charitable establishments. If we recall that infirmaries were especially reserved for those ill of contagious diseases, and that minute precautions were taken, not only to s separate them from the people, bu also to isolate them from each other, we shall here understand that arrangement of cells with windows, that allowed these poor persons to see the country and to warm themselves in the first rays of the sun, for these windows opened about East. They were further fitted with blinds inside, so as to avoid too great heat. A defensive gallery with machicolations connected the buildings and was in communication with the internal gallery by doors placed in the gable walls. A ditch surrounded the enclosure, as one can recognize by examining the external substructure of the great hall. One reached the tops of the four turrets only by the gallery and by ladders placed in these turrets serving for watchmen.

Note 1.p.116. See Arch. civ. et dom. of NM. Verdier and Cottois. Vol. II. p.107.

The middle ages the exhibited in the composition of these establishments of benevoleyce the ingenious mind, that one a coords to them in the construction of religious monuments. Indeed it is a singular prejudice to be so willing that those architects should have been so subtile, when it concerned the erection of churches, and at the same time so clumsy when it referred to the building of civil edifices. It was not their fault, that since the 16 th century have been destroyed most of those benevolent establishments infinitely divided, but generally well arranged otherwise, to replace them by hospitals in which on the contrary, men have soughts and sperhaps wrongly, to concentrate the greatest possible number of the sick. Louis XIV. the great leveler of all things and all conditions in France, gratified the hospitals erected under his reign by the property of those numerous infirmaries and leper hospitals, that no longer had a reason for existence, since in his time, there were no lepers to be cared for: but this is not to say that the hospitals of the 17 th century were models to pe followed in regard to arrangement, from the point of view of san-

minimized and the cospect to be and the ord fig and sign prop. In the few nosurosis of the middle sees, that have pensions to is, as find & soirie of very succeeded and delicate oregev. Inose bailineds have a mono-ensel acceptence vienous end rich; the ustren's cave sours, sur and lions; they are often separated from each other, as one may beare in the presstind searcles; where recivingsily is respected, and certainty if there os suy oning recognant to the urinfoundit. It if the estada in mose establishments, in some of such alighened orre dived taem soundsorly today, if is the common occupancy of vist oilis. form frequently was safferings of each pattent see by sic sign of the sifter of als stithbooks. Wisands of transf that one cellular system, frequently applicating one respected of one middle apea, was deterably preferable . and some system account in our tita, it is certain the cours and ca soral noint of view it bleseasof any interes. Te adeers to smovinte end it seasing the mentions a work near good in the thin tead the numerous founders and constructors of our mosorals .seen sinita end 1.

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sanitation, hygiene and the respect that should be had for the sick poor. In the few hospitals of the middle ages, that have remained to us, we find & spirit of very extended and delicate charity. Those buildings have a monumental appearance without being rich: the patients have space, air and light; they are often separated from each other, as one may prove in the preceding examples; their individuality is respected, and certainly if there be anything repugnant to the unfortunate, who find refuge in those establishments, in spite of such enlightened care given them abundantly today, it is the common occupancy of vast halls. Then frequently the sufferings of each patient increase by the sight of the sufferings of his neighbors. Without claiming that the cellular system, frequently applied in the nospitals of the middle ages, was materially preferable to the system adopted in our time, it is certain that from the moral point of view it presented advantages. We adhere to showing that it emanated from a sentiment of very noble charity among the numerous founders and constructors of our hospitals, of the middle ages.

Before terminating this Article, we shall attempt to destroy an error widely spread, touching the establishment of leper nospitals. It has been claimed that leprosy was brought from the East to the West at the time of the crusades; but as we have stated above, in the time of Matthew Paris there were 19.000 leper houses in Europe, mostly built in cemeteries having no relation with the East. Further, of 300,000 men led into the East by the prother of Philip I, scarcely 5,000 reached Palestine, and very few returned to Europe. Of the army of the emperor Conrad III, there remained but a small number of crusaders able to see their native land again. Louis the Young and Richard Lionheart returned almost alone from Palest ine. Then how could these armies, that were swallowed up in the East, be able to import and distribute leprosy in the W West, so that it was necessary to found 19,000 leper houses to care for lepers? Without entering into a discussion that w would not be in place here, concerning the invasion of that disease in Europe and particularly in France, one may recognize it as certain, that it existed much before the crusades. 1

Note 1.p.119. On this subject, see Recherches sur l'origine des ladreries, etc., by L. A. Labourt. Paris. 1854.

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Possibel S. Oscaszine, oriently oxiled S. Opportant (some us 1150). The coscet as built in 1222, toon repaired in 1779.

housisel of F. Frintes, Pas S. Denis, founded by Est brotoners see Anologed in 1902. The bossered consessed a very beautiful neil for the oner to alse in. In 1910 was chosed a or wel. The onlars of the poor mars boilogest suit first in the establishes of the noscibil his successively entered until 1992.

Homonist of Curre-Timens, founded to S. Tours is 1254.

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Themas of Jenonas, foures in 1979. In 1966, James of Jameson, wife of Charles 7, emberded it.

Popular of S. Jac des-du-Pare-Pres, founded by Pailto IV in 1994.

loseited colonding to als orider of the Concite (Pouce Date des Falleose), founded or a citized of Paras, Late 1269.

Pospical of S. Jacques-acx-Pelerius, Sus S. Cents, founded 1815 by fours V. has caused ses completed in 1929.

Hosoital of % lalian-sur-Memetriars, founced by two fibrlars in 1990. In 1994 the founders enlarged that hall by the mondiation of several aniscent houses.

Poscibal J. Repulears, founded by Failip of Valors in 1220.

Ansontal monastic or of commandary of Petit-S. Autions, forested in 1949 ander Charles 7.

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Here is the list of the principal haspitals founded at Paris from the 7 th to the 16 th centuries.

Hotel-Bieu, according to tradition founded by S. Landry (7 th century).

Hospital des Haudriettes, founded under Clovis, and where it is claimed that S. Benevieve died. In the 13 th century t the family of Haudry rebuilt the establishment.

Hospital S. Gervais, founded by Gatier Wasson, priest, in 1171. The chapel of that hospital was only destroyed in 1411.

Hospital S. Catherine, originally called S. Opportune (abo-

Hospital S. Catherine, originally called S. Opportune (about 1180). The chapel was built in 1222, then repaired in 1479.

Hospital of S. Trinite, Rue S. Denis, founded by two brothes Escuacol in 1202. That hospital possessed a very beautiful hall for the poor to sleep in. In 1210 was added a chapel. The children of the poor were collected and raised in the establishment. The hospital was successively enlarged until 1598.

Hospital of Quinze-Vingts, founded to S. Louis in 1254.
Hospital of S. Marcel (primitively of the Oursine), founded
by Marguerite of Provence after the death of S. Louis.

Hospital of Jacobins, founded in 1263. In 1366, Jeanne of Bourbon, wife of Gharles V, enlarged it.

Hospital of S. Jacques-du-Haut-Pres, founded by Philip IV in 1286.

Hospital belonging to the priory of the Charite (Notre Dame des Billetes), founded by a citizen of Paris, Roger Flamming, in 1269.

Hospital of S. Jacques aux Pelerins, Rue S. Denis, founded 1315 by Louis X. The chapel was completed in 1323.

Hospital of S. Julian-auk-Menetriers, founded by two fiddlers in 1330. In 1334 the founders enlarged that hall by the acquistion of several adjacent houses.

Hospital S. Sepulchre, founded by Philip of Valois in 1333. Hospital of S. Esprit, founded in 1361 for children.

Hospital monastic or of commandery of Petit-S. Antione, founded in 1368 under Charles V.

Besides these establishments there exist a great number of communes and in parishes, houses or halls for the sick, the poor and pilgrims.

To end Sallo-Ponen encon there existed on the dress fours one of dictingers afficiently stail, that the traveler could find a lodding at the eth of each day. Those ions or tavered were large batels in which were found out notes, lodding, food and drink. They served as hales for soldiers, and were clased under the substraion of inspectus, "framentarii as our posit," who ratened over their being property kept, and places useful to the secret police of the prefects of toe places useful to the secret police of the prefects of toe boases, it was notessary to obtain a sort of traveling our. Resides the nonessary to obtain a sort of traveling our.

ir rounds, and for the emperor birealf, men no traveled. It was in an inn of the country of the Sabines that Titus catant me fever of which no ties a few days later. It was necessary to show his breveling carn to loade in the tim, for the stronger reason that he could produce telsy notes only with post-ind leaters.

After the investor of the barontians, this establishment of investial inns was entirely ruined, as well donestood. The German races practised nosathallay estensively. A Frank or a Pareundian did not believe that he could refuse again for to nis nouse to a stranker; thus in traveling furing the first centurys of the middle see, man mere accuseded at each state.

on his route. If the owner addressed was too poor or with too limited quarters to setisty them, he accompaned them to a netfacor better provided, and all took their repass todether.
"No other nution," says facitus in speaking of the lengths.
"receives concentons and guests with more senerosity: to close

when provisions are expansion, he that just received him, inincases another refude and conducts him there; they enter wion this new hose without invitation, and are received with sodal kindness; known or unknown, viey are treated with the reward for the ridge of acspitality." With the exaderation in the pictore traced by factors, it is nowever certain that HOTELLERTE. Hotel. Inn. Tavern.

In the Gallo-Roman epoch there existed on the great roads inns at distances sufficiently small, that the traveler could find a lodging at the end of each day. Those inns or taverns were large hotels in which were found post horses, lodging, food and drink. They served as halts for soldiers, and were placed under the supervision of inspectors, "framentarii et curiosii," who watched over their being properly kept, and who were charged to spy on travelers. Thus the inns became places useful to the secret police of the prefects of the sovernment, and still to have the right of lodging in the houses, it was necessary to obtain a sort of traveling card. Besides the houses served for lodging not only private individuals and soldiers, but for magistrates and lenders on their rounds, and for the emperor himself, when he traveled. It was in an inn of the country of the Sabines that Titus caught the fever of which he died a few days later. It was necessary to show his traveling card to lodge in the inn, for the stronger reason that he could procure relay horses only with posting letters.

After the invasion of the barbarians, this establishment of imperial inns was entirely rained, as well understood. The G German races practised hospitality extensively. A Frank or a Burgundian did not believe that he could refuse admission to his house to a stranger; thus in traveling during the first centuries of the middle ages. men were accustomed at each stopping place to ask lodging and food in the habitations found on his route. If the owner addressed was too poor or with too limited quarters to satisfy them, he accompaned them to a neighbor better provided, and all took their repast together. "No other nation," says Tacitus in speaking of the Germans. 1 "receives companions and guests with more generosity; to close his house to anyone whatever would be a crime. 2 According to his fortune, each receives his guest, and offers a repast; and when provisions are exhausted, he that just received him, indicates another refuge and conducts him there; they enter wie th this new host without invitation, and are received with equal kindness; known or unknown, they are treated with the same regard for the right of hospitality." With the exaggeration in the picture traced by Tacitus, it is however certain that

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toe luty, only punished by fine those foiling to the competition of the come pitulories of Chorlewogne cosmond hospitality under the same panolties.

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since as m octors some of them. The modestic exposishments anattered over the scal of Padlafter the 9 to century exercised application, and in the access or oriorise of the 11 th and 12 to century a disast see. There no less existed in the 12 to century a productions number of into one sucurbs of the century a production, and these and them in the time of the century and the time of the century of the time of the time of the third the time of the third the time of the third of the third of the refiges of third of the centures. The tale of the centure of the third the century and the third third the third the

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well durphased, provided with good code of soft feathers, wion good wide in abundance out often saultustation, pository and
realway; duris were attached to the establishment and parasi
as batt to attract, felly and rob travelers.

In sec 13 to contary that and because were set refuse of the sound of cities, and the ordinances of the kinds remailed without effect in these dens od scoundrels. Under Philip Aidust in 1979, and doring the redshay of outer Blandha of Casaits in 1979, terrible often's occurred bishaed the simulars of the timprisoned after the limbthspers of Peris; one occurs was imprisoned after the first, and the University dismissed the cities the second, on the ordinate that fusing was not remised to them. In the if the century these disorders only increased; most inniseers being outeness and reposers of one-laws; so much so mean in 1915, to take from inniseeers the disparce to assessible a strangers only in the man and officers was issued in which it was at that, "that the hour and dinnice was issued in which it was at that,"

the barbarous conquerors of Gaul regarded hospitality as a d duty from which one could not free himself.

Note 1.p.121. Germonia. Shapter 21.

Note 2.p.121. The riparian law made hospitality an imperative duty, and punished by fine those failing in it. -- The capitularies of Charlemagne command hospitality under the same penalties.

However, from the time of Gregory of Tours there existed imas, since he mentions some of them. The monastic establishments scattered over the soil of Gaulafter the 9 th century exercised hospitality, and in the abbeys or priories of the 11 th a and 12 th centuries is always mentioned the house for guests, built near the entrance gate. There no less existed in the 12 th century a prodigious number of inns on the great roads and in the suburbs of the cities, and those inns, less watched t than in the time of the empire, were the refuges of thieves, assassins, fallen women, gamblers and debauchees. The tale of the prodigal son always represented him at that epoch in the inn, in the midst of women that made him drunk and robbed him of his money. Courtois of Arras is robbed in an inn where all is offered, that can seduce a young man; for the inns were then well furnished, provided with good beds of soft feathers, with good wine in abundance but often adulterated, poultry and venison: girls were attached to the establishment and served as bait to attract, delay and rob travelers.

In the 13 th century inns and taverns were the refuge of the scum of cities, and the ordinances of the kings remained without effect in these dens od scoundrels. Under Philip August in 1192, and during the regency of queen Blanche of Castile in 1229, terrible brawls occurred between the scholars of the University and the innkeepers of Paris; the provost was imprisoned after the first, and the University dismissed the clerics after the second, on the pretext that justice was not rendered to them. In the 14 th century these disorders only increased; most innkeepers being cutpurses and robbers of passers; so much so that in 1315, to take from innkeepers the d desire to assassinate strangers that stopped with them, an ordinance was issued in which it was stated, "that the host who retained the effects of a stranger dying in his inn, must repay thrice what he had kept." In an inn of Rue S. Antoine at

one such of the early, Jeanna of Divice identified nemet? To openers the formeries of the identifier of arton finance of the identifier of the identifier of the identifier of the place." Says W. Le four de Linry, "was a little into accased on the back of the river and beyond the identifier of the city then simost deserted." The tavarde than served also as haunts of counterfaiters, it uroved by this places from Benart contrafaits. (Old French open).

Note 1.p. 122. Courters.

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of conservation and usality of these deflering; they have soon read amost the the the service of the service of

Incre is every reason to believe tons in the Porth cood to trans eatheries were in dea, for there is mention in the Comecularity of Corr. of worden works that were acted to follows. It is allegies. It has example in Art. Fosse, Fig. 1. In the coorden work that crowned the ditches of the camp of the tower as testore the fallegies. The connecting the tower as

secency for one lefenders to command one fort of sie rancists. to sweet the trences, and to smelter themselves from the oromines organized the about must have character the cooperations.

the sign of the eagle, Jeanne of Divion installed herself to prepare the forgeries by the aid of which Robert of Artois c claimed possession of the inheritance of the countess of Mahaut. "That place," says M. Le Roux de Lincy, "was a little inn situated on the bank of the river and beyond the Greve, a part of the city then almost deserted." The taverns then served also as haunts of counterfeiters, as proved by this p passage from Renart contrefait. (Old French poem).

Note 1.p.122. Louriere.

Note 2.p.122. Manuscript of imperial library No. 6985 of L Lancelot. folio 32.

Also in the inns came the fomentors of public disturbances, when they concealed themselves from spies. 3

Note 3.p.122. See Hotelleries et cobarets ou moyen age, by Franc. Michel and Ed. Fournier; Book I. Le livre d'or des metiers.

One will understand that these establishments were nothing but houses, generally isolated, having no distinctive mark than a sign hung at the doorway.

HOURD. Wooden defensive Gallery.

A closed structure of planks; applied to military architecture, it is a wooden structure built at the tops of curtains or towers, destined to receive the defenders, overhanging the f foot of the masonry and giving a more extended flanking, a projection very favorable to the defense. We have explained in Art. Architecture Militaire (Figs. 14, 15, 16, 32), the mode of construction and utility of these galleries; they have such great importance in the art of defense of placer frog the 11 th to the 14 th centuries, that we must enter into descriptions.

There is every reason to believe that in the Roman epoch the these galleries were in use, for there is mention in the Commentaries of Cesar, of wooden works that were actual defensive galleries. We have given an example in Art. Fosse, Fig. 1. In the wooden work that crowned the ditches of the camp of Cesar before the Bellovaes, the gallerise connecting the towers a are continuous galleries protecting a parapet below. The necessity for the defenders to command the foot of the ramparts, to sweep the trenches, and to shelter themselves from the projectiles thrown by the assailants, must have caused the adopt-

enough, not one defending dillowers after see Sallo-Poran econg. The appre bettlements in case of since could not offer an afficient defende, since in anomorand to econemy or occasion men were obligated to seek characteris. If the besides read to even the fore of the salla, it become an entire impossibility for the besisted not only to shoot him but even to see him, without leasted nair the pertonetts. Altherty a at the effect of the 12 centuries, we have at of the 12 centuries, we have at the salers of the 12 centuries, we delicate pierced at the level of the permanent calleries. The parameter the orojecting case are doubled, so as to pethit placed white the orojecting case are doubled, so as to pethit placed white the orojecting case as a struct national to relieve the sales.

note 2.p.120. For exomple of the coeffe of Corucasonne, the ere the bolder preserved.

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are placed four roles entirely through; two a little balon to

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osp A. toso a second sineer R. seronsly orchecited. The norkwan passed there has dement and straight ins second t tenter R. as indicated in the perspective detail P., and then

Cixes to the timber 3 by a pin; a shorp poet D berroin top e

The fiet thereon, it was easy to set the double posts H, betres serviced as front protection, and than you placed the roof, which covered the fellery and

from projectiles and as radios. Holes G mude between the front timbers allowed men to aim. This the crossbow man coserd on the daileries could send belts chroash the many sibte and duop scones throash the machinoletions X on the sessilants. From the inner dallery other crossoow men or archers saill but

and arrows afsing the pasispers. Communication between the

adoption of the defensive galleries after the Gallo-Roman epoch. The apper battlements in case of siege could not offer an efficient defense, since in shooting the archers or crossbow men were obliged to show themselves. If the besieger reached even the foot of the walls, it became an entire impossibility for the besieged not only to shoot him but even to see him, without leaning half the body over the battlements. Already a at the end of the 11 th and beginning of the 12 centuries, we note at the summits of towers and ramparts holes of defensive galleries pierced at the level of the permanent galleries. Trequently these holes are doubled, so as to permit placing under the projecting beam a strut intended to relieve its spannate 1.p.123. Bergettertellico. Book VIII. Chapter 9.

Note 2.p.123. For example at the castle of Carcassanne, where the holes of the falleries are everywhere preserved.

The merlons of the towers and curtains of the castle of Carcassonne (about 1100u are high (5.2 × 5.9 ft.); the holes of the galleries are spaced regularly as permitted by the curve of the towers or the internal arrangements; under their piers are pierced four holes entirely through; two a little below t the sill of the battlements and two at the level of the inner gallery. Through the lower hole the carpenters ran a first timber A, then a second timber B, strongly projecting. The workman passed through the battlement and straddled the second t timber B, as indicated in the perspective detail B', and then entered the strut 6 in its gains. The head of this strut was fixed to the timber B by a pin; a short post D between the e ends of the timbers stiffened the entire system. Placing plaaks flat thereon, it was easy to set the double posts E, between which were slid the timbers serving as front protection, and then was placed the roof, which covered the gallery and the inner permanent gallery, so as to shelter the defenders from projectiles shot at random. Holes G made between the front timbers allowed men to aim. Thus the crossbow men posted on the galleries could send bolts through the many slots and drop stones through the machicolations K on the assailants. F From the inner gallery other crossbow men-or archers still had the permanent slots L, through which below the galleries they shot arrows against the besiegers. Communication between the inner and outer galleries was established on a level by the

n acremants amoss decions were sufficiently dead to allos a men so pass, the covering ass ment of scrope planks of value of appearance and bases and if indeputary ordisonaties were fested, fresh nation, in so, and if indeputary ordisons of surf. Fulls covering was also placed on tooms of cartains and covers of all scrope places is and to suffer a regular size, the ordinary ordisated of the condition of cence and confinency ordisated and for ordinary ordisons. Indeed, the commines the so many doors confines; and if the dailery are butted or described of the mass of antioned of the case of the masses of corresponding of the case and are casting and the case of the case of

the sore of dilities and density bisces becauteliff, but univer time of our. In time of newes, this carpenery yes wassee of the shaked and of haven tebes becale bus bavenes vis discrete recesses irrained since inaits the rareauss. Thus ic ticilion's sebsice and to avoir non ector the of notes, classatvice and service unem, the makes of the delibered were castost at equal distances, energy in decisin exceptional cuara, so the sall tes or seed at some country to area or seed to sall the sale or see so land aldred alymers bottes as a colde costs see and med appropriation one surf state and the areas of the playing of the filleries could be replied exceeded. Interes me acable arous sours being ant (2), mose eaching is traced as A, the carceater only pat to siane between them the proton to ing places, as esen ut?. If shodes of speak volume, thrown by the machines of ere besiever, broke some clanks, shey could even be promotly replaced from the inside Authorise include the night, sithout required eleger darks or page.

Forth comestines the dilleries were permanent, partitivityly to the tops of towers; then 67s ellipries were of leasons like example of bly in the country.

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battlements whose merlons were sufficiently high to allow a man to pass. The covering was made of strong planks on which were placed large slates or tiles, and if incendiary projectiles were feared, fresh hides, thick woolen fabrics, manure or turf. This covering was also placed on tops of curtains and towers of all strong places intended to suffer a regular siege, the masonry battlement only serving in time of peace and for ordinary protection. Indeed, the openings were so many doors connecting the outer and inner galleries at a great number of points; and if the gallery was burned or destroyed by stonethrowers of the besieger, there remained standing the masonry protection, offering a last shelter to the soldiers that manned the ramparts.

This sort of galleries was usually placed permanently, but only in time of war. In time of peace, this carpentry was easily removed and placed under cover in the towers and in the numerous recesses arranged along inside the ramparts. Thus to facilitate setting and to avoid num ering the timbers. classifying and seeking them, the holes of the galleries were pierced at equal distances, except in certain exceptional cases, so that all the protecting planks forming the exterior being cut to lengths slipped anywhere between the double posts set at the ends of the cantilevers. Thus one understands how the placing of the galleries could be rapidly executed. Indeed. the double front posts being set (2), whose section is traced at A. the carpenter only had to slide between them the protecting planks, as seen at B. If stones of great volume, thrown by the machines of the besieger, broke some planks, they could even be promptly replaced from the inside galleries during t the night, without requiring either nails or pins.

Still sometimes the galleries were permanent, particularly at the tops of towers; then the galleries were of masonry like half timber work, or they were covered by slater. There still exists in the castle of Laval a tower of the 12 th century, that has retained an upper gallery, whose construction seems to date back to the 13 th century. This gallery forms a part of the roof and is combined with it (3). It is a beautiful work of carpentry executed in fine and strong oak. According to the custom of that epoch, each rafter is strengthened and trussed, resting on blocks A (see section C), which rest on

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the heads of the front posts D receiving a plate S and supported by great double internal braces E. These struts relieve these rafters at about the first third of their length. Under each front post of each strut is placed a timber P, that forms a cantilever and machicolation. At G is seen the front system of the gallery, which is boarded and covered by slates lilike the roof itself. At certain distances small openings are pierced in the gallery to allow shooting. The lower radial t timbers are held in place by tiebeams as in all carpentry of conical roofs. We shall return soon to these permanent galleries, very common in military structures of the 15 th century, that are not crowned by machicolations with protecting parapets of cut stone.

During the 13 th century men again simplified the system of wooden galleries at the tops of the ramparts. The doublemboles were renounced, and they were contented with a single row of large square holes (about 11.8 ins. square) pierced at the l level of the inner galleries; and indeed an oak timber 11.8 ins. square can support an enormous weight, even if it overhangs 9.8 ft. Now the galleries rarely projected over 6.4 ft. It is unnecessary to enlarge here on these simple galleries, whose construction has been sufficiently indicated in Art. Architectura Militaire, Fig. 22. But often in the 13 th century there is a question of double galleries, notably in the Histoire de la croisade contre les Albigeois. 1

Note 1.p.122. See Coll. des docum. ined. sur l'hist. de Fronce. I series, etc. Translated by M.C.F.uriel. 1837.

At Toulouse, besieged by simon de Montfort, the inhabitants constantly increased the defenses of the city. (Old French poem 2 Note 2.p.128. Verse 6854 et seq.

Then at the siege of Beaucaire. (Old French poem). 3

We have been compelled to seek on the monuments themselves the traces of those galleries in two stories. Now at the city of Carcassonne at both sides of gate Narbonne, whose construction dates back to the reign of Philip the Bold, we have been able to recognize the arrangement of one of these double galleries, indicated by the construction of very strong merlons cut with a batter next the inner gallery as indicated by section A. Their base is pierced at the level of the inner galle-

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and; every 5 %t. There wassed through the holes for the falheries a strong beam 7, on the outer and of water stood the -ere not note ent bairach & deed asign a ston C seed bearless 1.50 of the probabilis planks. Thuble to care i bell treas um ett. rested on the place R. seigrad the Shree pasks S. R. I. S restand on the inclined author of the merlon, and come to abid the inclined rear pust K. A second row of them oldered at Law 5.9 ft. from the first row formed the tiebeams of the o principals W of the roof. It & a stot are left atone one extsend surface of the certain. This mecricolation was served by men placed at O in the liner fallery at each susce Sieven with an opening F. The aremers and prosents wen of the lower -vise of breate of svan for hit bas ,8 is bernog eren viellet ice tars first machicolasion. The accoud sallery had a machinclarate at R. The store of propostiles are note but .F the remain remodellated billiones dis deserte depoi il regioliti all'imbre il servicio and connected the two salteries. It that manner is was osesa-

and connected the two sollerses. In this manner is was obsar-

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opened under the dallery, and permitted a second ron of orosm-

carpenery acercely permitted it to be established only in ex-

and that was precisely the case at both sides of date Warbome, particularly for the north cartain (Art. Ports), on the extent petween that date and the tower du Presau to which this system as applied.

The section will address the authorized for a little annual

gallery by holes 11.8 ins. square and regularly spaced for the gallery. On the surface of the inner gallery of the city is a continuous recess B. The double galleries were then arranged thus' every 5 ft. there passed through the holes for the galleries a strong beam C. on the outer end of which stood the inclined post D with a duplex post E forming the slot for passage of the protecting planks. Bouble timbers J held these posts, rested on the plate E, gripped the three posts G. H. I. G resting on the inclined surface of the merlon, and came to hold the inclined rear post K. A second row of ties placed at L at 5.9 ft. from the first row formed the tiebeams of the p principals M of the roof. At M a slot was left along the external surface of the curtain. This machicolation was served by men placed at 0 in the inner gallery at each space fitted with an opening P. The archers and crossbow men of the lower gallery were posted at R. and did not have to attend to serving this first machicolation. The second gallery had a machicolation at S. The store of projectiles was made within the c city by a hoist. T. Stairs 9 were placed at certain distances and connected the two galleries. In that manner it was possible to pile a considerable quantity of stones at V without o obstructing passage in the permanent galleries or the crossbow men. At X one sees the external elevation of the carpentry of the gallery without its protecting planks, and at Y that carpentry is covered. Through the slots of the machicolations could be cast on the assailants a prodigious number of projectiles. As always, the permanent slots U pierced in the merlons opened under the gallery, and permitted a second row of crossbow men posted between the trusses on the permanent gallery to aim at the enemy. One conceives that the inclination of t the protecting planks was very favorable to the shooting. It further allowed making a second machibolation S overhanging the lower gallery. The expense required by such considerable carpentry scarcely permitted it to be established only in exceptional circumstances, at points poorly defended by nature, and that was precisely the case at both sides of gate Narbonne, particularly for the north curtain (Art. Porte), on the extent between that gate and the tower du Tresau to which this system was applied.

If curtains were equipped with galleries, for a still stron-

successe reason was took of the towers should be facultable a ging the same and same senie isso int yesasoon Jens at a awarding a const than a cartain; as the towerest the city of Araossonne are all oreced at the level of thuir doubr floors or your wide oceniade on Anlierica, well arranged and distribution used around one ourcomfarence. Sur those coners cause covered ov oscoenery, it was therebearing so arrange that so that one sould out on the monfs of the daileries aresout infering thouse of the toward. For tong purpose was lett above the correct and vacant sease neware the clocks to issue that this of the gallery (3), that vare laid on the place of the roof and raskened benind the fremant by keys, as inflowed by the secure A. The dailary of the round tower than forced a polysonal plan auth more or less sites, accordant as the circultarence of the tower was larger or smaller, for the occasiods of the dellery. like bue becolened and sices, are along pierced at soul THE REAL PROPERTY AND PERSONS ASSESSED AND ADDRESSED ADDRESSED AND ADDRESSED AND ADDRESSED AND ADDRESSED AND ADDRESSED ADDRESSED AND ADDRESSED AND ADDRESSED A

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OR THE WARRY TOTAL OF THE PARTY the level of who comperence of the Airon. If the essailent suggested in filling the dittor, he reased the too of the batper av 6. as indicated by the skewer V. Then the machinolations cierced at C did out write vertically the miners at 3: 1 C -as and produced to the a mean collector at a store the sarfind of the tower. On the contrary, if a miner actuated the bess of the tower at F in the oction of the allon, is was neceseary to apen a macricolation at C arraesty over aim, for the processiles falling from the meanicalstion E bounced on the glad and must describe a parabola a b oner the herde of -ed end is ease of bareages admiliants again and a first end se of a tower or curtain, oroses(ed by a rolling sued or out. the projectile falilies versionly from the mannipolation B o causel more firege by bounders, for it could this after benesthat the part part is some or to be some or to be about the same of

hower at the end of the 13 th consur, forming a cart of the

of the incendiary projections on all projecting carts of the

stronger reason the tops of the towers should be furnished w with that necessary defense, since there was more advantage in attacking a tower than a curtain; so the towersof the city of Laracssonne are all pierced at the level of their upper floors by very wide openings on galleries, well arranged and distributed around the circumference. But these towers being covered by carpentry, it was indispensable to arrange them so that one could put on the moofs of the galleries without injuring those of the towers. For that purpose was left above the cornice a vacant space between the blocks to insert the rafters of the gallery (5), that were laid on the plate of the roof and fastened behind the framing by keys, as indicated by the section A. The gallery of the round tower then formed a polygonal plan with more or less sides, according as the circulference of the tower was larger or smaller, for the openings of the gallery, like the battlements and slots, are always pierced at equal distances. The continuous machicolations were epened along the surface of the tower, at B along the protecting planks, at C according to the locality and occasion, and because why?; the bases of the towers (like those of the curtains) were built battering with rare exceptions. The batter usually ended at the level of the counterscarp of the ditch. If the assailant succeeded in filling the ditch, he reached the top of the batter at G. as indicated by the sketch M. Then the machicolations pierced at Cadidanot strike vertically the miners at G: it was then necessary to have a machicolation at B along the surface of the tower. On the contrary, if a miner attacked the base of the tower at F in the bottom of the ditch. it was necessary to open a machicolation at C directly over him, for the probectiles falling from the machicolation B bounced on the slop and must describe a parabola a b ower the heads of the miners. But if the assailants appeared in mass at the base of a tower or curtain, protected by a rolling shed or cat. the projectile falling vertically from the machicolation B c caused more damage by bouncing, for it could thus enter beneath the cat. At P we give a perspective view of the top of the tower at the end of the 13 th century, forming a part of the walls of the city of Carcassonne, with its galleries placed and partly covered by fresh hides, so as to avoid the effect of the incendiary projectiles on all projecting parts of the

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gallery.

But from the first half of the 13 th century, men had already sought to prepare, at least in part, for the danger of fire presented by those projecting galleries placed on cantilever beams, and against which the assailants cast a number of little kegs of Greek fire, and darts wrapped with tow, resin or burning bitumen, all materials that by their nature could stick to the carpentry, and produce a very lively fire, that weter could not extinguish. We already see at the tops of the towers erected at Goucy by Enguerrand III from 1220 to 1230 stone corbels, intended for placing the wooden galleries. The combination of these galleries is very apparent and very ingnious at the top of the keep of Coucy (Art. Donjon. Fig. 39). The bottom of the galleries of that celebrated keep, the largest of all those in Europe, is 131.2 ft. above the counterscarp of the ditch. And although at that height the besieged did not have to fear incendiary projectiles, they established areund the entire exterior of the enormous cylinder 48 stone corbels projecting 3.2 ft. and 1.0 ft. thick, to receive the gallery whose section is given at A in Fig. 6. At B is seen one of the corbels, each composed of two courses. On these corbels in time of war rested a sill C receiving two inclined posts D, E, Doubled beams F were placed a little above the level of the opening in the battlements, and served to bear & floor intended for crossbow men. Before this floor was opened a machicolation G vertically over the base of the batter of the keep at the bottom of the ditch. According to the system before explained, protecting planks were placed in the slot between t the posts P, doubled by a post held at its base by the horizontal timbers. At the top of the cornice H is built a double slope of stone on which rest both series of rafters H'. whose slipping was prevented by the angle at J. On the continuous i internal corbel K being set other inclined posts L. held by double timbers M and tenoned into the rafters I'. On the beams M, timbers receive the floor O, which at each opening rests on the wall, but so as to leave between this floor and that of the gallery the machicolation N vertically over the outside of the tower. The floor 3 is placed in communication with the terrace by some stairs P, and allows one to reach the floor of the gallery, and to post a second row of crossbow men, who

can spect tarough the slote in the massers. (45 tar tarattaria face T. which represents at T one plain battier and as To the battlements vit dellerses). The engls of tire is carevisably arranged to cover vice oregenise the defensive Saliery of the ourcain of the keep. The machinolastons amily suffice to reach the bossen of the daved disch, excersion onsween the ourtain and the tower. The defenders may be possed on the fallery or in the interior, being thus perfectly covered. Scopes piled in the empressive of the passeries on the floor ) can be pushed off with the foot, and se rapitly drowed throadn the machinolition V. At 3 are planted the ducks o caseing outside the water from the terrace; those duois were formerly lined with lead, like the terrace itself. A fragaths of the plan of the top of the Paso of Topoy Alon the dalleriand setelance (T) d a level and the the and or bempras as explanation of Fig. 6.

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-cod cor eveds . I iii ic parent of the cover cor F each duron, on isolated sockets below the bardeness. Having to place a scaffold at his befall of bases conclas to place two iron circles and to rightr the crown deeply cracked by the explosion to 1692, we assurally and to seek for the coset element means of the 18 to capetty to see energies alleries. You ail is foreseen and belogiaged to this remarksole court of the Rosp to facilities that lange apparently so -ma e. C to Jues hearts ert vo hel nous even ew bas .cooreent conry itself, the golina and voits, to looky the prosequence eauloyed by the carocasors of the 13 to century, by the remass on that they could not use others. One recells (irs. Dornon. Figs. 38, 39) now is frame the plantirm of the keep of poppy. Just playform consists of a wife inner defensive gallery 210enimael for teel gold between set is S.f. noin flows a bullett a hip roof, at one carrie of maich is pierced a round opening.

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can shoot through the slots in the masonry. (See the internal face T, which represents at T' the plain battlements and at T" the battlements wit galleries). The angle of fire is particularly arranged to cover with projectiles the defensive gallery of the curtain of the keep. The machicolations amply suffice to reach the bottom of the paved ditch. excavated between the curtain and the tower. The defenders may be posted on the gallery or in the interior, being thus perfectly covered. Stones piled in the embrasures of the batteries on the floor 0 can be pushed off with the foot, and be rapidly dropped through the machicolation N. At S are pierced the ducts c casting outside the water from the terrace; these ducts were formerly lined with lead. like the terrace itself. A fragment of the plan of the top of the keep of coucy with the galleries assumed to be cut off at the level a b (7) completes the explanation of Fig. 6.

We have endeavored to render an account of the manner of setting these galleries at the height of 151 ft. above the bottom of the ditch, on isolated corbels below the battlements. H Having to place a scaffold at the height of these corbels. to place two iron circles and to repair the crown deeply cracked by the explosion in 1652, we naturally had to seek for the practical means employed in the 13 th century to assemble the galleries. Now all is foreseen and calculated in this remarkable crown of the keep to facilitate that labor apparently so dangerous, and we have been led by the arrangement of the masonry itself, the solids and voids, to apply the procedures employed by the carpenters of the 13 th century, by the reason that they could not use others. One recalls (Art. Donjon) Figs. 38, 39) how is drawn the platform of the keep of Coucy. That platform consists of a wide inner defensive gallery encircling a vault with 12 sides covered with lead and forming a hip roof, at the centre of which is pierced a round opening. This internal gallery, divided in slopes and counter slopes to throw the rainwater outside, could be easily leveled by means of beams laid on blocks. These timbers (Fig. 3) in two rows A and B formed two wooden rails on which was set a crane with wheels A, larger than those at B, allowing it to move in a circle. The end C of that crane passed beyond the outside vertical of the great cornice D. Since on the ridge of that cor-

somming rose faut prinduies 2, is alle professory for the neas and essected taken dayo easo of feater so of seets end for -Hori esi os and dantione and and a of a so a son a sec . I flod a fine a meed ent yo the hear era an territ ron norman -18 FRAIRING ON NO ACCORDE DE SENS DENS FACES EN LESSEE le. Pui it was necessary that the carcenters on the exemptor nexas has energ used to hearcome streets en alimeter miner alrower the designed of the baschurants. An overcanting sout--is . I de norvevele as boe of de costoes ni bedecital es bio. lowed and is one accept once each of the training the lowed of date eatery, and a second start V below, so as to be set namicol and oldered of the corbeit and to asserte the total one is an these places assemble the too of the rimnearest saecher and elements Wises river marked but he se and anvisce the oracle of seed around and enacte the keep the Third or each ed floor waster and anicale to be. J. too earlie eltail smost much senic bioliss Sparings audit in the said oversiseisé abaéen placed outeire esca noeminé, ao other mechwhich that be acted to direct the solver ... to bear a trut the of different industry, the carriever state I was only out to on occurate and was successively transferred by the and the second series of the s

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set on the well V; 3, that by means of the three spenings-

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cornice rose four pinnacles P, it was necessary for the beam of the crane to be raised to pass over these pinnacles. That beam then swung on a pin G, and was brought back to its inclination and fixed at the rear end by the beam F and a bolt I. Detail & presents that crane in elevation on the windlass side. But it was necessary that the carpenters on the exterior could assemble the timbers supported by that crane and taken through the openings of the battlements. An overhanging scaffold is indicated in section at L and in elevation at L', allowing the first stage M before each opening and at the level of the gallery, and a second stage N below, so as to be able to set the blocks on the corbels and to assemble the inclined posts in these blocks. Workman straddling the top of the ridge of the cornice could sasily assemble the rafters together and arrange the plane of each truss. Thus inside the keep the entire operation of placing the gallery could be done in brieff time and without requiring scaffolds other than those little overnanging stages placed outside each opening, no other machines than that crane, moving in a circle by means of its wheels of different diameters. The cantilever stage I was only b built for on opening and was successively transferred by the crane itself. On examining this Fig. with care, one sees: - 1. that the openings of the battlements correspond to the distances of the corbels, so that the double timbers 0 can just p pass along their surfaces; 2, that the arches of these openings are pointed so that the two overhanging beams can be properly set on the wall V: 3, that by means of the two girts R,R, imlined struts S and J, the overhanging beams M could neither move nor fall outward; 4, that the slopes of the great cornice. whose utility could not be explained, had a perfect motive in the inclination of the rafters, that freely rested on their surfaces: 5, that the strong internal and external projection of this cornice by so much relieved these rafters: finally t that what was irregular at first sight in that colossal crowning, nowise motived by the presence of the battlements and s slots, is explained at the moment when one studies the combination of the galleries and the mode of setting them. But such is that architecture of the middle ages: it is necessary to seek constantly the explanation of all its forms, for especially in military edifices they necessarily have a reason of exeristyces and usalisv: and that considers to the hadrestve

Note 1.p. 186. This procedure was employed by us in the restant teration without haping to lowent the sacilast accident. Thres reriens were killed during the repoiring of the crocks, but becouse of negitience in the work. Further, this misfortune accurred outside the stuges mentioned, and on which were piled becouges then bore and tireers of considerable seight.

Fig. 9 fives an perspective the methods of the carmanach by clear of the fall of the fall of the few commenced by the little overheading states at the openings, certectly sufficient to assence this carceater, thus by truss; for those baing set a case of the salary countries to the observe of the salary and the timbers of the roof. It certify that be adulted that the carceaters of the roof. On mere very skilful in ranking, and it further suffices to courince one's self of this, to see the certainty erected by them into the province lasens employed here are so rell explanach by the arrangement of the places, and those means are so that by the arrangement of the places, and those means are so

sent no sections difficultay. . .

Note 1.p.137. We resent this; the absolutely similar operation by the same means was executed in very little time with light timbers by four corpenters, directed by M. La France, on old skilful jewrnessenthese are not hypotheses.

Tasks were no less necessary in order to provide a fortification wath its dalieries, workmen, timost in soundance, and will one risked one burning of those expends delieries by the ones; here about one beginning of the 14 th century the

ceptace them by machipolations at the oraceoung mail of abone.

issuits). Only in one provinces of the first did mittary arentosess continue to early delleries. There are yet seen a resat marter of them in Evityerland and Germany, that does from the id to, if to and if th centuries; out those falleries are usually placed on the tops of walls, and are no lonear countexistence and utility; and that contributes to the impressive effect of those vast structures.

Note 1.p.136. This procedure was employed by us in the restoration without having to lowent the smallest accident. Three workmen were killed during the repairing of the cracks, but because of negligence in the work. Further, this misfortune occurred outside the stages mentioned, and on which were piled heavy stones, iron bars and timbers of considerable weight.

Fig. 9 gives in perspective the methods of the carpenters p placing the galleries of the keep of Coucy. They commenced by the little overhanging stages at the openings, perfectly sufficing to assemble this carpentry, truss by truss; for those being set a passage was thereby established to the outside to spike the planks of the gallery and the timbers of the roof. It certainly must be admitted that the carpenters of that epoch were very skilful in raising, and it further suffices to convince one's self of this, to see the carpentry erected by them; but the practical means employed here are so well explained by the arrangement of the places, and those means are so safe with little danger, compared with what we see daily, that the building of the gallery of the keep of Toucy could present no serious difficulty.

Note 1.p.137. We repeat this; the absolutely similar operation by the same means was executed in very little time with light timbers by four carpenters, directed by N. La France, an old skilful journeymon; these are not hypotheses.

There were no less necessary in order to provide a fortification with its galleries, workmen, timber in abundance, and still one risked the burning of those external galleries by the enemy; hence about the beginning of the 14 th century the carpentry galleries were generally renounced in France, to r replace them by machicolations with protecting wall of stone. (Arts. Architecture Militaire, Figs. 33, 34, 36, 37, 38; Machicoulis). Only in the provinces of the East did military architects continue to employ galleries. There are yet seen a great number of them in Switzerland and Germany, that date from the 14 th, 15 th and 16 th centuries; but those galleries are usually placed on the tops of walls, and are no longer combined with the battlementr like those of the 12 th and 13 th centuries.

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At Constance in Saturation is stall seen a certain namer of towers entroped nith sellernes, that dere from the 15 th ceatury. The custon boase of this city dates from 1995, and a new retained on the upper part a brail. ful fallery of the same section, and which we occuped by of the roof and occuped to the color of the action at two sides of the colf the two sides of the colf and occup one too of the action factors. And the color of the sides of and check B is the same of the two sides on the exterior, and sheeth B is the same of the forest of the forest of the contract of the forest of these fir olaries of consideration of the forest of the same of considerations of the forest of the same, a constitution of the same of the same of considerations of the same of the

Ven still built selleries o restab artillery; but then took one projected to replace the pinate by masoncy delicates bedweet one numbers. Calleries of this sort still exist in Corrance and Salutariani, notatly on the tower that that terminates the brings of Coresence at the city end. At Variabere shill exist delicates of the century on the rimodres bails by Alteria Carter Care (Arm. Creasa, Wis. 19). Phose salisation are of masonry between the carter of the century of the century of the century of the century of the carter of th

Fire name of darlery is also given to sceffolds name in name entract on one of the free sides to allow persons of distinction to see persons personics, balleds or combats in the enclassion sed goace. Those galleries were then circulated, i.e., covered by rice teneshelds, alides of arms, printings on lines and savetance from the interiors are arranged in stees and savetance first interiors by older perticions. The remarkance in any cores by older perticions. The remarkance

For example, here is a gallery placed on the summit of all tower of the 12 th century at Dugny near Verdun. It is well understood that this gallery is of a later date (10), we think of the 14 th century. It consists of half timber work corbelled out on beams and covered by vertical planks spiked on the top of lower girts of the frame. The whole is covered by a r roof. Many towers in the suburbs of Verdun are still equipped with those galleries built during the wars of the 14 th and 15 th centuries, and which have been since left in place, and serve as belfries.

Note 2.p.137. The drawing of this tower was communicated to us by . Petihot-Bellovene of Verdun.

At Constance in Switzerland is still seen a certain number of towers equipped with galleries, that date from the 15 th century. The custom house of that city dates from 1398, and h has retained on its upper part a beautiful gallery of the same epoch, and which we present in section (11). These galleries combine with the carpentry of the roof and crown the tops of the wall at two sides of the building facing the quay. (A (Art. Breteche, Fig. 3). The sketch A shows a system of enclosure by vertical planks on the exterior, and sketch B is the detail of the lower cutting of these fir planks of considerable thickness with their battens C. As always, a continuous m machicelation is left at B.

Men still built galleries to resist artillery; but then took the precaution to replace the planks by masonry galleries between the members. Galleries of this sort still exist in Lorraine and Switzerland, notably on the tower that terminates the bridge of Gonstance at the city end. At Nuremberg still e exist galleries of the 16 th century on the ramparts built by Albert Durer (Art. Grenau, Fig. 18). Those galleries are of masonry between the members and crown the parapets of the curtains above the great artillery.

The name of gallery is also given to scaffolds built in halls, either on one of the free sides to allow persons of distinction to see certain ceremonies, ballets or combats in the enclosed space. Those galleries were then curtained, i.e., covered by rich tapestries, shields of arms, paintings on linen and t tapestries. Their interiors were arranged in steps and sometimes divided into boxes by cloth partitions. The manuscripts

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Tais food in Araitecture of the midde ages in France on

of the 15 th century have presenved to us a great number of t those decorated scaffolds, erected on the occasion of a tourney, banquet or festival.

HOURDAGE. A series of galleries.

HOURDIS. Masonry of brick or plaster between the members of half timber work.

HUTS. TAN old word employed to designate the leaf of a door; the entire opening part of isolated joinery. (Arts. Porte, Vantail).

HUISSERIE. A part of isolated joinery forming a partiti-

TMAGERIE. Sculpture. Carving.

This word was applied in the middle ages to every representation of scenes carved on stone or wood. Sculpters of figures had the name of image-makers after the 13 th century. (Art. Statuaire).

TMRRTCATTON. Coarse Mosaic.

Employed today to designate a delicate jointing of surfaces, forming designs varied in the arrangement of small cut stones or of bricks. Mosaics are sometimes composed of stones of different colors as in Auvergne and certain provinces of the South; stoves of terra cotta as in the cloister of the cathedral of Puy; bricks of various colors or glazed. Mosaics obtained by means of stones set so as to decorate surfaces are common during the 11 th and 12 th centuries. They are very rarely fo found in edifices of the 13 th century. The coarse mosaics m made of bricks of varied colors are especially found in houses and castles of the 15 th and 16 th centuries. (Art. Appareil).

INCRUSTATION. Inlay.

This word in architecture of the middle ages in France can only be applied to fillings of lead or cement in sinkings in hard stone, as for example, in pavements, tombstones (Art. Dallage). In France this sort of inlay, so common in Italy, h

ass not been employed, and that courses in inserting one bleces of colored arrole in recesses sunk in slaps of walve earble. Inlays of this kind are seen in the liathe endrow of 2. Vintaso near Florence, made to organent the bavenut, and enolesure of the ambos of the sanctuary, and even the factore (18 th contury). The carecarst of Stens, that of Florence (3. varie des Flours), that of Genos, are externally covered by

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The internal surface of an acco or wadle. (Art. Erarace).

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ARCTN. Carden.

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red in the middle ages, an organt and kinenes sarden. If and could have some area of water, swans and finnes were placed in it. Pessecre animited the levas and evisties here one of

has not been employed, and that consists in inserting cut pieces of colored marble in recesses sunk in slabs of white marble. Inlays of this kind are seen in the little churcheof S. Miniato near Florence, made to ornament the pavement, and enclosure of the ambos of the sanctuary, and even the facade (13 th century). The cathedral of Siena, that of Florence (S. warie des Fleurs), that of Genoa, are externally covered by marbleiinlays.

THURADOS. Intrados.

The internal surface of an arch or wault. (Art. Extrados).

JAMBAGE. Jambs.

Name given to the two vertical sides of an opening, door or window, when that opening is terminated by a lintel. When the opening is terminated by an arch, by preference is given to t the two sides that support the arch the name of "pied droits." (jambs). A A (1) are the jambs of the opening B. (Art. Porte).

JAMBETTE. Strut. Furring.

A carpentry term and usually designates a slightly inclined small timber that relieves the floot of the principal of a truss or rafter and is tenoned into the tiebeam or block. A (1) is a strut. (Art. Charpente).

JARDIN. Garden.

In market towns and even the cities (principally those of the provinces of the North), many houses possessed gardens. Gardens are mentioned in a great number of documents of the 12 th and 13 th centuries; and frequently behind those houses, whose facades look on narrow and muddy streets are little gardens.

Love of gardens and of flowers has always been very strong among the peoples of the north of France, and the tales and romances are full of descriptions of those private walks. For castles the garden was a necessary annex; it always consisted of a lawn of turf with a fountain, when that was possible, ararbors and vines, beds of flowers, chiefly of roses, much prized in the middle ages, an orchard and kitchen garden. If one could have some area of water, swans and fishes were placed in it. Peacocks animated the lawns and aviaries were one of

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cocks on the domains; a list of plants for prophenting tarians is even dived at langun. There are found lilies, roses and a casetily of calinary plants; apple, plan, casefult, ser-

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Industry cosecused magnificent deriens with property, when one frequently for those religious establiantons a nource of considerable produce. The mosts caused the execution of important works to bring water and to distribute it by recast of little channels of mesonry or of wood. The monastery as femous for its apples or bears, another for its grapes or brunes; and it is well understood, the religious did everyther to preserve the reputation that increased their mealth.

resorts of ladies. The stewards of Charlemagne must feed peacocks on the domains; a list of plants for ornamenting gardens is even given at length. There are found lilies, roses and a quantity of culinary plants; apple, plum, chestnut, service, medlar, pear, peach, hazel, almond, mulberry, laurel, pine, fig, walnut and cherry trees.

Note 1.p.143. De ornotu mundi, poem of Hildebert.

Note 2.p.143. Copitulbria, edih. of Boluze. Vol. I.chap.337.

Note 3.p.143. Chapters 341, 342.

In the Parisian Manager 4 are mentioned all culinary and ornamental plants, that should be cultivated in gardens. Therein are found beans, marjoram, violet, sage, lavender, mint, parsnip, sorrel, leek, vine, cabbage, spinach, rasberry, houseleek, fennel, basil, lettuce, pumpkin, borage, cauliflower, broccoli, hyssop, peony, lily, rose, currant, pea, cherry, pr prone, etc. The author does not content himself by giving a simple list of names, but he indicates the mode of planting. sowing, cultivating, smoking and grafting those plants; the methods employed for destroying ants, caterpillars, to preserve fruits, vegetables and event flowers in winter. In the country the gardens were enclosed by hedges or palings. sometimes by walls; in the 15 th century the alleys were already bordered by box. The plans of these gardens much resembled those plans that we see reproduced in the works of Du Gerceau. i.e., they were only composed of flower beds separated by alleys and of great rectangular lawns enclosed by trees and trellises affording shade.

Note 4.p.143. Coposed about 1398 by a citizen of Paris. Published by the Society of Bibliophiles francais. Vol. II, pa 48 et sea.

Note 5.p.143. Des plus excellens bastimens de France.

The abbeys possessed magnificent gardens with orchards, which were frequently for those religious establishments a source of considerable produce. The monks caused the execution of important works to bring water and to distribute it by means of little channels of masonry or of wood. One monastery was famous for its apples or pears, another for its grapes or prunes; and it is well understood, the religious did everything to preserve the reputation that increased their wealth.

THERE IC TOTAL TO THE OF SESSES

Causalogy of Cherry. In bog fusual of 3. Pastings it is said. sond dense was the annearor of David the Fines and that from this kind to Jeets Christ was 24 senorations. Now in many of our religious nonuments one fenenlosy of Corist is representet sa commenciae with Jesse, from whom from the though of a t ese osorice a certain number of kings, then & Joseph, the Sory Fire on Carist. Tars mesive of socioente and paratrak for sale sources and carlo virties by of meir favorian subjects after the end of one 12 th century. wany of our casaccrais clades under the name of the Holy Virin present the that of Jesse in the volutions of the Drintin--900 sills and no uses at beantoined flew vary ent . ict to Jand of the countries of Amiens, in and increasing voluments to the right hand on entering. The sees (1) is recresented asteso aporthing to casest, ocvered by the Jernah car: above in is placed kind Darid prowned, and the same suppression of krees. Also a tree of Jense to seco, socilyades at the besindias of the 13 to centucy, we the denical portal of the caa so leaved of Lagn; one of the 15 an estitute on the octable of the paradral of Rounn, etc. Stiller 41 ass of the 12 th ocastry over the entraces of the council of martices recreates one trac of ease, which is one of the mass constitut examples ed one age of elega painting at back recor; there were lies on the cod. at the foot of watch barns a land. Frere likewing exists very office soline flacs of one time of sonot fueer, recresenting one depositioned are in the ocapel of the light of one abody ordeen of ". Dunia. These are seed loans from the 18 bu century is the catherrels of Facing, Amiens, ? Courses, of the R. Chapilis of P. cia. One of the most councissole examples of the solite sample because out to selumnie elor exists in Trance is seen in one of the apsidal chartels of the cauren of S. Heising of Peauvais, and represents a true of Jesstartingse and at acces ones and to make the can tent ; s of Adoun, Yeas, ess. They were successed on corner on coses of bourse. Not last since there existed a tree of leader VALUE OF VALUE OF SAME AS THE PARTY OF THE P Against the Annual or West, and Add and the Reservoir

APART ATTEMPT

JESSE, ARBRE DE. Tree of Jesse.

Genealogy of Christ. In the gospel of S. Hatthew it is said. that Jesse was the ancestor of David the king, and that from this king to Besus Christ was 28 generations. Now in many of our religious monuments the genealogy of Christ is represented as commencing with Jesse, from whom grows the trunk of a t tree bearing a certain number of kings, then S. Joseph, the Holy Virgin and Christ. This motive of sculpture and painting furnished sculptors and particularly glassopainters with one of their favorite subjects after the end of the 12 th century. Many of our cathedrals placed under the name of the Holy Virgin present the tree of Jesse in the voussoirs of the principal portal. One very well sculptured is seen on the middle portal of the cathedral of Amiens, in the intermediate voussoirs at the right hand on entering. The Jesse (1) is represented asleep according to custom, covered by the Jewish cap: above him is placed king David crowned, and the entire succession of kings. Also a tree of Jesse is seen, sculptured at the beginning of the 13 th century, at the central portal of the cathedral of Laon; one of the 16 th century on the portal of t the cathedral of Rouen, etc. Stained glass of the 12 th century over the entrance of the cathedral of chartres represents the tree of Jesse, which is one of the most beautiful examples of the art of glass painting at that epoch: there Jesse lies on the bed. at the foot of which burns a lamp. There likewise exists very beautiful stained glass of the time of abbot Suger, representing the genealogical tree in the chapel of the Virgin of the abbey church of S. Denis. These are also found from the 13 th century in the cathedrals of Rheims, Amiens, B Bourges, of the S. Chapelle of Paris. One of the most remarkable examples of the stained glass of the 16 th century, that exists in France is seen in one of the apsidal chapels of the church of S. Etienne of Beauvais, and represents a tree of Jesse; they are also found of the same epoch in the cathedrals of Autum, Sens, etc. They were sometimes carried on corner po posts of houses. Not long since there existed a tree of Jesse on the angle of a house in Rue S. Denis, at Paris. One nearly intact is on the angle of a house at Sens.

A vertical senscritos being-s two out stoats, fillux vits abruar or plaster. When asalar is always biaced between ero ontical sede A S. C D (1) and two vertical soints A G. P S.

THE RESIDENCE OF STREET STREET, STREET

firms very tauck until the 11 th century, and then cecent very tour, outstockerly in the southern provides and in "oready, and are nearly without morear; they become tutoker toward out wifile of the 12 to century, and the stones were set on a century of morear without pend from after setting, thise juices in morear not baing rapped with an iron, but simply out with the trawel. The constructors not satisfies the first set intense to lender rejointed the statustors are satisfied.

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the 11 to and 12 th conteries, morear joints here made silently projecting beyond the sirrices and here out with sharp edass, as indicated by the section (2); but those joints decembly
ly only soulied to enall stones. For example, they enclosed the times composed of interials of different colors, forming a

in. Devond the face of the wall. This sert of joins was made of order were ripoed and carefully out alone frome. The active is very para, but not not also a certain shoresta in all alonesta for several and the start of all alonesta. The remove to a certain teners to certain teners.

One likewise sees in the edifices of the end of the 11 to ownthey in the southern provinces adjoining the Centre, like the onder of 3a Sarain of Todouse, for example, penjecting joints with convex section (3). Those by how supported the water

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rundents of living, as for eramote as the casairs of Torga-

JOINT. Joint.

A vertical separation between two cut stones, filled with mortar or plaster. Each ashlar is always placed between two horizontal beds A B, C D (1) and two vertical joints A C, B D. (Art. construction).

In the constructions of the middle ages, the joints were at first very thick until the 11 th century, and then became very thin, particularly in the southern provinces and in Burgundy, and are nearly without mortar; they became thicker toward the middle of the 12 th century, and the stones were set on a bed of mortar without being faced after setting, these joints in mortar not being rubbed with an iron, but simply cut with the trowel. The constructors not cutting the facings no longer rejointed the masonry.

Yet there are some provinces like Auvergne, where during to the 11 th and 12 th centuries, mortar joints were made slightly projecting beyond the surfaces and were cut with sharp edges, as indicated by the section (2); but those joints generally only applied to small stones. For example, they enclosed for facings composed of materials of different colors, forming a around each stone a band about 0.4 in. uide, projecting 0.04 in. beyond the face of the wall. This sort of joints was made after setting, were rubbed and carefully cut with irons. The mortar is very hard, but has not always a perfect adherence to that which served for setting, and that it was necessary to remove to a certain depth to rejoint.

One likewise sees in the edifices of the end of the 11 th century in the southern provinces adjoining the Centre, like the church of Sa Sernin of Toulouse, for example, projecting joints with convex section (3). Those by not stopping the water that runs down those roofs, are less subject to disintegration by the effect of frost.

The duration of the joints depends much on the quality of the stone employed. With porous limestones, very rough silictous limestones, excellent joints are made; it cannot be the same with sandstone, that never adheres perfectly to mortar because of its special aptitude for absorbing moisture. Then mortars dry rapidly disintegrate. So we have observed in some monuments of Alsace, as for example at the cathedral of Strasburg, that the constructors (to avoid on the inclined planes

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or surfaces directly exposed to rain, the disintegration of t the mortar joints, always crumbling and especially near the e external surface), cut at both sides of those joints little grooves to lead the water on he sarface and protect the mortar from washing. (4).

Note 1.p.146. Foce of a buttress of the transept exposed to wind and rain.

In principle, from the moment when one cannot set stones perfectly jointed, as did the Greeks and even the Romans when they employed grand masonry, much better is a thick, than a thin joint, the mortar being preserved only on condition of forming a very considerable volume. The worst joints are cast joints, either in mortar or in plaster. Water evaporating or being ababsorbed by the stone, the mortar shrinks and there remain c crevices into which enters the dust that produces vegetation. The only method to employ when stone structures are erected. is to set the stones with the lewis on a bed of mortar; caulking is sometimes directed, as for example in resuming work; b but it requires to be done with extreme care. In this case w when the caulking mortar begins to set, it is necessary to ram it in with iron tools until refusal; then to rejoint some time later to a depth of 2.0 to 2.4 ins. It is well understood, t that what we say here is more applicable to beds than to joints.

The architects of the middle ages frequently imitated joints in painting in interiors, either in red or white on yellow ground, or in white on an ochre ground. (Art. Peinture).

JUBE. Rood Screen. Rood Loft. Ambo. Pulpit.

The rood loft belonged to the furniture of the primitive chehurch; it was then an elevated gallery placed at the choir between that and the believers collected in the nave. From the that gallery were read the lessons taken from the epistles or gospels, and even sermons were preached. Prudentius relates that the bishop instructed the people from the rood loft. Geregory of Tours describes the rood loft of the church of S. Cyprian. Pope Martin I caused the canons of the council of the Lateran to be read from the rood loft of that basilica. The capitularies of Charlemagne ordained the edicts of the prince to be read there. From the rood loft were also chantne the Hallelujah, the proses or sequences; but that custom

Ass not repaired from the time of William Jatend, ash alrewy shapped on the floor, and assenses to the rest left only or days of forms for the lessons.

Note 1.9.147. Hunn of S. Hypolite.

AND ADDRESS ASSESSED AND ADDRESS AND ADDRE Firs is not the olace to asek to describe the different acres of road lotts, that entered in the ondreads of the name sed Trad macrae and iteratoes trained bereat was T bas amoo of the freek and lake cources until the 14 th century, wis not so all in form was we diderensed works in the ins arios of S. Vitale of Pavenne, of S. Verk of Venues, S. ) Courset av Pome, 3. Accross at Vilon, the caunsural of Sispa, sie caucen of S. Winisto at Florence, are rather Arest pulpits seed sail affol hoor dans, sacered fereves stances or are of one western entraces, that from the 12 th century at least form a securetion, a sort of raised callery between the appear ourt of the nave and the back of the choice. In the accept concones of the West, these wood lofts served that se a front o AMBIERT AND AND AND AND ADDRESS OF THE PARTY presued by earce awars, bay most frequently by only one. Two sains assended to it, one st toe nith esternia at the sointhe side, the other at the lafe at the fared mine; inte did not needed the sought it and bares so a single extent from one size to the owner of the neve, live the salleny. On-Thei boon signia a sonet of Jame Jon soch stant pissan nel of an early encel, and yet our abosy cources and all our cashedrita correpted tien, and shee many portan conrenes. Poseances glire signisades deene so. Jang bodess es shan Ji nev sac end of the 12 th century and the overname of the 12 th, tive time of him, cities describe product out to sent with forms, were not originally accords at receive cost inter not THE PERSON AND DESCRIPTION OF PERSONS IN THE PERSON IN desire of the 13 to century, that ottone or andicers careed .alarracian to arrest and enclad asked hour to noticese ent Total Taiers ciaise that the ostnerral of cent antil his in tive possessed a very old rood loft, since he dives it a dure of the 3 to century (watch to not possible, the canalant vand been outle as the end of the 12 to century). Fit his ocprincipal to indecesting, for it in its tes to us that this

rosa tote, according to the primitive trudition, was senseared

was not retained. From the time of William Durand, men already chanted on the floor, and ascended to the rood loft only on days of great festivals to read the lessons.

Note 1.p. 147. Humn of S. Hypolite.

Note 2.p.147. Book I. Miroc. Chop. 44.

This is not the place to seek to describe the different sorts of rood lofts, that existed in the churches of the East and West during the first centuries; it is certain that the ambo of the Greek and Latin churches until the 14 th century. was not at all in form what we understand today by rood loft. The ambos of S. Vitale of Ravenna, of S. Mark of Venice, S. B. Laurent at Rome, S. Ambrose at Milan, the catnedral of Siena, the church of S. Miniato at Florence, are rather great pulpits able to contain several persons, than rood lofts like those of our western churches, that from the 12 th century at least form a separation, a sort of raised gallery between the upper part of the nave and the back of the choir. In the abbey churches of the West, these rood lofts served thus as a front c closure of the religious, an enclosure sometimes pierced by three doors, but most frequently by only one. Two stairs ascended to it, one at the right entering at the epistle side, the other at the left at the gospel side; this did not prevent the upper gallery from being in a single extent from one side to the other of the nave, like the gallery. Unfortunately there does not exist in France a single rood loft of an early epoch, and yet our abbey churches and all our cathedrals possessed them, and also many parish churches. However it must be stated that the great cathedrals built about the end of the 12 th century and the beginning of the 13 th. like those of Noyon, Paris, Chartres, Bourges, Rheims, Amiens, Rouen, were not originally arranged to receive rood lofts and enclosures of choirs. (Art. Choeur). It was only about the middle of the 13 th century, that bishops or chapters caused the erection of rood lofts before the choirs of cathedrals. Still Thiers claims that the cathedral of Sens 1 until his ti time possessed a very old rood loft, since he gives it a date of the 3 th century (which is not possible, the cathedral having been built at the end of the 12 th century). But his description is interesting, for it indicates to us that this rood loft, according to the primitive tradition, was separated

Tada ero arcos. "To see that there are of shoot, second ore can "to said coats; has crucifix is becases who but, "fary are Anomarson an Erone by four stone colains, task form sacen arout arions fire and the contract out the coll, and once i is and next the lave, as note siles of the principal gate of the grain. What other fallecass of that not any said only of declosed of deal state. I has soone ere bosts to entere see ere salientes of tens is bost toe ecuptes is analyst in thes on whe left on anternut the chorr, and the doshel in what on and riches the set of the to the search the road loft of Rous tes ate eaven is by Talers, but it is even very donoteat bigg caus roog lode orecomes bus 12 to centumy. Thill are -ce, and ele give leave for ever in farfeithe and things of the Indupates about leasure to dome to the on the terms. eacheders pails at the end of the 12 th century or belinand seists some out even situit a ic consider of it is fi sat ic 8 TABOR OGC : elegano serno alla vibalcas ond baccia Gaires, ke est to theren son to notice and we recell out has some son an extitted lever earlie. Das toorefore capact indicate one place of a reed lift contemporary with the course of the 12 to septapy. Alters following the spaces of the cathodrals of that soor. one sees only that the enclosers around the sent tury mur have near foresees, you take is sessonly a room loft wior agalumens. To bearefore owners and one obtains of Weisees as sificiantly based to chait, even exactionally as itsmen of Miles and Service of Miles have the first and the first lay sencet from 1160 to 1730. We shall more caudily educe, a MANUFACTURE STREET, ST poletis, like vaces of S. Werk of Verice, except in stylo; b on perta and energy was entirely open and violative or level with the safe siste, as at Votes Case of Peris, vesum, lone, and orietablik at Abelia. Bood lorgs only appeared in c of somers to showed say to nother the some of the derivation November, 1216, i.e., when are bishous were compelled to remenews seed of the boye knowledge of all judgets seeks under present, that every suit required from a frond, and that every fraud sas a sin, so that it was for the relievous support sy so jaces actual effairs, personal or marca, featal or critisof cases and even simple offenses. By the firmness of the k

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into two ambos. "He says that they are of stone. 2 separate f from each other: the crucifix is between the two. 3 They are supported in front by four stone columns, that form three front arches. Each has its entrance next the choir, and each i its exit next the nave, at both sides of the principal gate of the choir. Most other galleries of that sort have each only one stairs by which one enters and leaves. What is peculiar to the galleries of Sens is that the epistle is chanted in that on the left on entering the choir, and the gospel in that on the right." Not only is it impossible to grant the rood loft of Sens the age given it by Thiers, but it is even very doubtful that this rood loft precedes the 13 th century. Until the 14 th century the cathedral of Sens possessed only one transeot, conforming to the arrangement of several great episcobal cathedrals built, at the end of the 12 th century or beginning of the 13 th; it consisted of a single nave wit side aisles extending around the sanctuary with three chapels; one souar e at the apse and two placed at the sides at the height of the existing lower choir. 4 One therefore cannot indicate the place of a rood loft contemporary with the church of the 12 th century. Always following the scheme of the cathedrals of that epoch, one sees only that the enclosure around the sanctuary may have been foreseen. Now there is scarcely a rood loft with enclosure. We therefore cannot regard the opinion of Thiers as sufficiently based to admit, even exceptionally in France, that there existed rood lofts in cathedrals built by the lay school from 1160 to 1230. We shall more readily admit. t that in those edifices could have been erected ambos or great pulpits, like those of S. Mark of Venice, except in style; b but certainly the sanctuary was entirely open and often on a level with the side aisle, as at Notre Dame of Paris, Meaux, Sens. and originally at Senlis. Rood lofts only appeared in c cathedrals after the act of union of the barons of France in November, 1246, i.e., when the bishops were compelled to remounce their claim to have knowledge of all judicial suits under pretext, that every suit resulted from a fraud, and that every fraud was a sin. so that it was for the religious authority to judge actual affairs, personal or mixed, feudal or criminal cases and even simple offenses. By the firmness of the k king S. Louis and by the establishment of his royal bailiffs

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scall evist, are namerically sooks of the epoch of the Aspansant state 1.p. 148. All these rood lofts have been destroyed.

There is preserved in one of the shapels of the crypts of Worre Dame of Chartres the residence of the old rood loft resored in the last century (19 th) by the chapter. Table fractors

besaty, entirely painted and cities; that here discovered by the take takes, our colleged and friend. We found recently contact the payers of the character of the character of course of the residence of takes from the bestehning of the 1d to 2014 the roof loft, that dated from the bestehning of the 1d to 2014.

and the organization of the parlement, the bishops were compelled to restrict themselves to their spiritual jurisdiction, or to that possessed by the feudal lords; unable, as they had hoped at the beginning of the 13 th century, to make of the cathedral the seat of every kind of jurisdiction, to content themselves with building episcopal churches, and shutting themselves within their chapters in those vast sanctuaries, erected under the inspiration both political and religious. (Art Cathedrale).

Note 1.p.148. Direct. eccles. sur les jubes des eglises. Poris. 1688.

Note 2. Chopter III.

Note 8.p.148. It is probable that this separation was not such that it was necessary to descend from the right ambe to ascend the left one, since the entirety formed three arches, unless admitting that the middle arch was merely an arch supporting the crucifix.

Note 4.p.148. That arrangement, of which we have found traces very visible in elevation, is confirmed by recent excavations, that Man. Lance, diocesan architect and Lefort, inspector, had the courtesy to have executed under our eyes.

We have given in Art. Choeur illustrations of rood lofts, those of the abbey church of S. Benis and of the cathedral of paris. According to those arrangements were erected the rood lofts of Notre Dame of Chartres, S. Etienne of Bourges, Notre Dame of Amiens, cathedral of Rheims, from 1250 to 1500. that of the cathedral of Alby, which dates from the beginning of the 16 th century; those of the church of Madeleine at Troyes. S. Etienne-du-Mont at Paris, S. Florentin of Argues, which s still exist, are remarkable works of the epoch of the Renaissance.

Note 1.p.149. All these rood lofts hope been destroyed.

There is preserved in one of the chapels of the crypts of N Notre Dame of Chartres the remains of the old rood loft removed in the last century (18 th) by the chapter. These fragments all belong to the middle of the 13 th century, and are of rare beauty, entirely painted and gilded; they were discovered by the late Lassus, our colleague and friend. We found recently beneath the pavement of the choir of the cathedral of Paris, restored by order of Louis XIV, a quantity of the remains of the rood loft, that dated from the beginning of the 14 th cen-

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de of sculptures and delicate carvinds, it presents one of the set extraordinary sorcimens of Cotain art, carried to the test limits of delicacy and considerate of forms. Some controles of Frittany still retain means nooden rood lofts; we cite as the most remarkable that of S. Fisore at Feduct, which

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was of the sentral nortal of the saturable of Paris is one

century, and was of incomparable refinement intexecution. Unfortunately those fragments are not sufficiently numerous to be able to restore in certainty and in all parts those charming monuments. Of all rood lofts still possessed in France, t that of the cathedral of Alby is certainly the largest, most complete and most precious; charged with an infinite multitude of sculptures and delicate carvings, it presents one of t the most extraordinary specimens of Bothic art, carried to t the last limits of delicacy and complication of forms. Some churches of Brittany still retain their wooden rood lofts; we cite as the most remarkable that of S. Fiacre at Faouet, which dates from the end of the 15 th century. It is entirely painted.

JUGEMENT DERNIER. Last Judgement.

This subject is frequently represented, either in sculpture or in painting, and our churches of the middle ages. But the manner of representation differs according to the time and a according to the provincial schools.

On the portals of abbey churches we see the last judgement first assuming an important place; but in the 13 th century, it appeared in the tympanums of the principal portals of cathedrals, parish churches and even of chapels.

On the portal of the cathedral of Autun, whose erection was about 1140, we see sculptured one of the earliest and most c complete last judgements. Christ occupies the central part of the tympanum; beside him an angel weighs the souls and the d devil awaits the damned. On the lintel at the right of Christ are the elect, who look toward heaven. A colossal angle takes singly the souls of the happy and passes them through a window into a palace, that represents paradise. At the left of the Saviour are the condemned; an angel armed with a spear prevents their communication with the elect. The damned are nude a and nold their heads with their hands. Already in that sculpture the dramatic idea dominates; expressions are rendered w with wild vigor, that lacks neither style nor nobility. But at the beginning of the 13 th century artists are pleased to represent in an extended manner the scenes of the last judgement, and only then do they occupy the tympanums over the doobsays, but the lower voussoirs od the arches. The last judgment of the central portal of the cathedral of Paris is one

of those best treated. The lines is entirely occupied by persons of different conditions leving their touts, aroused by and and the end side sounding transets. All these persons are clothed; there is to be seen a foce, a kine, stitlers, a comen and a matro. In the apper zone at the middle is an and all maining the state; two demons endeavor to depress the sounder of their treatments and the state of their treatments. At the right of farist are the elect, all as near less, yours and entired. These elect are represented as been considered with rare they look toward Christ. At the contestions of their conditions. The expressions of those persons as the restent and despent are the soundered with rare tailors and despent are the season of the contest and despent at the season of the instruments of the passion; then are

vouescirs at the side of the conditional wis coouded at the lower part by scenes from hell, and at the side of the elect by an enfel and partiarons, among whom Abraham holds souls in his lap; then are grouped the elect. That remarkible sculoture takes from 1210 to 1715; it was entirely painted and dilded.

To find the same sinject represented at the owndedrals of thantres, Amience, Ansims and Forfeaux. Eut in the last friits, the same scole are friendly that the compositions are for from sousting that of Nonces Inc. The draw-tic feolist is already exacestand.

devils are more ridicalists than frishind. Vearly always the saturance of hell is respectively to saturance the mile of raice demans planes the danced. In the measury this satisfication of the resonance of the incortance; the frances are too numerous this incortance; the frances are too numerous this incortance; the frances are too numerous this parsona, and have taken from their squipture that coarestates of standard, so well from at Paris. Reliefs recreasions the last juddement are seen on the portal of the literary at the cathedral of Rouer, and on the principal cortal of course. Settless from the 14 to contary, and which of our of froves, that have from the 14 to contary, and which of our of froves, that have from the 14 to contary, and which of our of the saturation of present.

of those best treated. The lintel is entirely occupied by persons of different conditions leaving their tombs, aroused by two angels at each side sounding trumpets. All these persons are clothed; there is to be seen a Pope, a king, soldiers, w women and a negro. In the upper zone at the middle is an angel weighing the souls; two demons endeavor to depress the scale at their side. At the right of Christ are the elect. all clad in long robes and crowned. These elect are represented as beardless, young and smiling: they look toward Christ. At the left a demon pushes a multitude of chained souls wearing the costumes of their conditions. The expressions of those mersons are rendered with rare talent; terror and despair are de depicted in their faces. In the upper part at the centre is seated Christ, who shows his wounds: two angels standing at r right and left hold the instruments of the passion; then are kneeling the Virgin and S. John, imploring the Saviour. The voussoirs at the side of the condemned are occupied at the lower part by scenes from hell, and at the side of the elect by an angel and patriarchs, among whom Abraham holds souls in his lap; then are grouped the elect. That remarkable sculpture dates from 1210 to 1215; it was entirely painted and gilded.

We find the same subject represented at the cathedrals of Chartres, Amiens, Rheims and Bordeaux. But in the last reliefs. the souls are generally represented as nude, excepting the e elect, and the compositions are far from equaling that of Notre Dame of Paris. The dramatic feeling is already exaggerated. the groups are confused, the condemned are grimacing, and the devils are more ridiculous than frightful. Nearly always the entrance of hell is represented by an enormous mouth vomiting flames, into the midst of which demons plunge the damned. In the 14 th century this subject, although often represented, 1 loses much of its importance: the figures are too numerous and little, and the artists in seeking reality multiply scenes and persons, and have taken from their sculpture that character of grandeur, so well drawn at Paris. Reliefs representing the last judgement are seen on the portal of the library at the c cathedral of Rouen, and on the principal portal of church S. Urbain of Troyes, that date from the 14 th century, and which by their details, if not by the entirety, still present sculptures treated with rare skill. The glass of rose windows

wer often occupied by scores of the lant judices from the because of the 14 to century. Those of the rose suctor of Meases, multiple belong to that epoch, are very beautiful. The sound rose station of the octaeral of Sens (16 to century) presents very good paintings of the same sanject. But the best calounds on glass of the last judices. of the cooch of the Assaussance, of the those of the Assaussance, on the test the S. Chapelle of the castle of Vincennes, attractions to Jean Jouens. There exist and audices of the last judices in from the 15 to century.

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If was outtonary during the mine to place in the mine of the nave of certain great caureres a payement of which and black atoms or of colores these. Towning by their coronactions conditions conditions conditions of demanders, to which has fiven the names of lawyrinth, rosh of demander, or of place. We cannot state the critic of this sort of payement. Y. Louis Carts in his payements du modhier de loure Dane de Rueins, claims dat these payements were a romanacence of some payem training the late of them is made in William Jurend, or in authors preceding his, who have written on mentions. The earliest labyringes known to us not est can his Voyage d'outerer en Jestusalem. I in speaking of the lapyringh of Crete, Saye nothing that can dause one to beliapyringh of Crete, Saye nothing that can dause one to beliapyringh of Crete, Saye nothing that can dause one to beliapyringh of Crete, Saye nothing that can dause one to beliapyringh of Crete, Saye nothing that can dause one to beliapyringh of Crete, Saye nothing the case one setupliance on

enose that he had evidently seen traced on the pavents of the cathedral of the cathedral of the cathedral of the cathedral of the cathed dedicts, meader, blace or road of Jerusalum. Some archeologists have desired to see in those paveneds which continues in concentral lines a sport of the masters of works, bised on this fast, that these of these ladyrinths, made of chartres, theirs and Amena, represent in certain concerns the fivares of the stantaces that energed the

was often occupied by scenes of the last judgment from the beginning of the 13 th century. Those of the rose window of Nantes, which belong to that epoch, are very beautiful. The south rose window of the cathedral of Sens (16 th century) presents very good paintings of the same subject. But the best paintings on glass of the last judgment, of the epoch of the Renaissame, are those of the S. Chapelle of the castle of Vincennes, attributed to Jean Cousin. There exists ome mural paintings of the last judgment in France; we particularly mention those of the cathedral of Alby, which date from the 15 th century.

KARNEL. (Art. Chateau).

KEMINEE. (Art. Cheminee).

LABYRINTHE. Labyrinth. waze.

It was customary during the middle ages to place in the midale of the nave of certain great churches a pavement of white and black stones or of colored tiles, forming by their combinations complicated meanders, to which was given the names of labyrinths, road of Jerusalem, or of place. We cannot state the origin of this sort of pavement. M. Louis Paris in his Memoire du mobilier de Notre Dame de Rheims, claims that these pavements were a reminiscence of some pagan tradition; that is possible; yet no mention of them is made in William Durand, or in authors preceding him, who have written on matters concerning churches. The earliest labyrinths known to us not earlier than the end of the 12 th century, and lord de Caumont in his Voyage d'outremer en Jherusalem, 1 in speaking of the labyrinth of Crete, 2 says nothing that can cause one to believe in a tradition of this nature, i.e., he establishes no point of comparison between the labyrinth of the Minotaur and those that he had evidently seen traced on the pavement of the churches of his country. The labyrinth of the cathedral of Fheims is cadded dedalus, meander, place or road of Jerusalem. Some archaeologists have desired to see in those pavements w with combinations of concentric lines a sport of the masters of works, based on this fact, that three of these labyrinths. those of ghartres, Rheims and Amiens, represent in certain compartments the figures of the architects that erected the

enthedrile. To sanil refrain from spiring and oussion. The finds drawings of most of those labora (ros in the work of W. and. lacoed: Servelades emailles do moyen and set at in Health and sauce. W. Vallet in his description of the crupt of S. Pertia of S. Ouse, establishes that the beitsvers must follow on the sir kness the neutrous windings traced by the lines of these services; in memory of the others that Jesus made from Jeru-ville (Alderia) shows its physhelm a mosis, that one can tose for one of these laborants, i.e., a condicated meanic. Now

ent custom come from the Bast after the first crassiss? Or representation of meaners of works in these parametes is comected with some masourd symbol according by the school of lay masters, since we see that I laber the according to the pavences of cources, only in the meaner master the course to the pavence fell into the early of characters attractures fell into the early of that or extend to recreate in a course of leads from estimates attracted to recreate in a course of leads from estimates.

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led tiles reor-santing continuations of lines in andleve so small, that ostitatory one cannot follow those concincated ways either on foot or alses, since sine of theselawrence, like take of the soney ondres of following, are
not more than 10 ins. soldes, dotably the less meanders dato
from the 14 th cellury, and may has for cooles of larker works; out seain the small or the large contain so relicious embles.

Kole 1.p. 152. In 1619, published by Morouis de la conte. Po-

Kote 2.p.41.

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LAMBOURDA. Ream. Vall Seam.

norimontally along a well on concein or bests a firstward are fained and rast the joissa of floors, snosa constraction remains visible. A (1) is a beam fixed on a wall, and F 2 are beams bear a direct of the last case, the beams beauty facebear to the director pind, key is case for the director of means of long incompling, key is cased as the first pind.

catnedrals. We shall refrain from solving the question. One finds drawings of most of those labyrinths in the work of M. Ame, lacced; garrelages emailles du moyen age et de la Renaissance. M. Vallet in his description of the crypt of S. Bertin of Sa Ouen, establishes that the believers must follow on their knees the numerous windings traced by the lines of these meanders, in memory of the passage that Jesus made from Jerusalem to Calvary. The little basilica of Reparatus at Orleansville (Algeria) shows its pavement a mosaic, that one can take for one of those labyrinths, i.e., a complicated meander. Now that basilica dates from 328, as M. F. Prevost believes. Did that custom come from the East after the first crusades? Or is it a local tradition? We are inclined to think that the re representation of masters of works in these pavements is comected with some masonic symbol adopted by the school of lay masters, since we see those labyrinths appear in the pavements of churches, only at the moment when relegious structures fell into the hauds of that powerful school. If these meanders had been traced to represent the passage of Jesus from Jerusalem to Calvary, it is to be believed that amreligious sign would have recalled the stations, or at least the last one; now nothing like this is noted on any labyrinth still existing, or on those of which drawings have remained to us. Further, we find enameled tiles representing combinations of lines in meanders so small, that certainly one cannot follow those complicated ways either on foot or on knees, since some of these labyrinths, like that of the abbey church of Toussaints, are not more than 10 ins. square. Actually the last meanders date from the 14 th century, and may pass for copies of larger works; but again the small or the large contain no religious emblem. Note 1.p.152. In 1418.published by Marquis de la Grange. Paris. Aubry. 1858.

Note 2.p.41.

LAMBOURDE. Beam. Wall Beam.

A carpentry term that serves to designate a timber placed h horizontally along aswall on corbelr or beside a girder, into which are gained and rest the joists of floors, whose construction remains visible. A (1) is a beam fixed on a wall, and B B are beams beside a girder. In the last case, the beams b being fastened to the girder by means of long iron pins, keyed

ostas or agreeros (4.6. Placeber). The same has also erge as as serving to notice or closes and serving to notice or closes of respective to  $\theta$ .

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emoon courds. The moodwork of the 17,00, 14 th and 15 th comsacise in the interior is fromedly covered by manages in
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of Tologra likevise possesses an enormous period (Arise.
Norse-Disu, Seller. Also frequently the lower walls of halls
or on moore here weinshoted, i.e., by bordes with become beout an emoored errors into walnesses in the bases in the colant salted on farring strips fastered with plaster in the colart salted on farring strips fastered with plaster in the colart salted on farring strips fastered with plaster in the colart salted on farring strips fastered with plaster in the col-

TILL THE DEC MORPE. SHARRED OF the Dean.

A po tox eler or one berminaded at its summit by a little elerater with a window and a little door at its base, dealered to indicate after at might to loostion of a religious establishment or a senseer. ("Id Frence text)."

Note 1.p.158. Sa Chroniaua de Rains (13 th century), public

The provinces of the Bentes and true of Preses till retain on the a freed number of those monuments, so as to esque the shopestion, that they were formerly vory common. Perusps one another seek in cases the cross of the testition of Celb-to indeed these the the testition of Celb-to indeed these or mentions for seek vory frequent extendes of tenterns of the lest. The world learers, pears of tenters, and the lest indicate a secret place, a seructure, a true etymologies cost indicate a secret place, a seructure, a true. These, istering in fresk is latings brack, a tente, reck, was of bricks; control in fresk is latingues, a tente, reck, was of bricks; control in fresk is latingues, a

bolts or stirrups. (Art. Plancher). The same name is also given to small strips of wood placed on floors and serving to n nail the parquetry; but parquetry not being wery ancient in F France, the name applied to those long strips is very modern.

LAMBRIS. Wainscot. Ceiling.

Only employed in the middle ages to designate a facing of a smooth boards. The woodwork of the 13,th, 14 th and 15 th centuries in the interior is frequently covered by wainscot in the form of round or pointed tunnel vaults. This is then ceiled carpentry. (Art. Charpente). This ceiling was always covered by paintings more or less rich. One still sees many in Brittany, Normandy and Picardy. The great hall of the palace at Rouen is covered by aswooden ceiling. The hall of the hospital of Tonnerre likewise possesses an enormous ceiled roof (Arts. Hotel-Dieu, Salle). Also frequently the lower walls of halls or champers were wainscoted, i.e., by boards with battens bekow the tapestries. This wainscot was detached from the wall and nailed on furring strips fastened with plaster in the chases A. (1). Thus was avoided the dampness of the walls, always quite dangerous in houses.

LANTERNE DES MORTS. Lantern of the Dead.

A nollow pier or one terminated at its summit by a little structure with a window and a little door at its base, designed to indicate afar at night the location of a religious establishment or a cemetery. (Old French text).

Note 1.p.155. La Chronique de Rains (13 th century), published by Louis Paris. Paris. Techener. 1837.

The provinces of the Centre and West of France still retain quite a great number of those monuments, so as to cause the supposition, that they were formerly very common. Perhaps one should seek in these structures an ancient tradition of Celtic Gaul. Indeed these are the territories in which are found the raised stones or menhirs, which present very frequent examples of lanterns of the dead. The words lantern, pharos and burning pharos, have etymologies that indicate a sacred place, a structure, a light. Later, laterina in Latin signifies brick, ingot, rock, mass of bricks; pharos in Greek is luminous, a torch; phanes, the god of light; fanum, a consecrated place;

our an Coldan, a sociednated shore; fanore, to recite for makes of sommerrane, The Calino daisy of Orube-jora innactions a D detens whose reof was strewn with decouched fires. were in our days in some provinces of France, elevater scones, 48033 section is attributed to the Drails, ecconeously is our spinion. pees for seif-illusingsing at night, and for nealing the sick, was sleep seer the the night presented 3. John Par sugge of the values (Journius) amune owners, orevents cockerseldin ear to arenem and Janu eson of line at al . everyor les and a note biscoul in one pare, like several of those elace is tra finali & evenes or becommon seion eachd aca eret . senue. of somy mask tessive a levis, were there alread by the mapping in and undited from I have the first to the prince a transfer department of the prince samiles were made consucrated so was lithe, whe can, or week preserventy stones in saded to avert sizknoss, so inive away end soirt's, or were tougury stones, training of the traris of the Presen Astenies, it is wiways one case that the figure a vo beincompose villeration asses eight as one to mainti slear, seems to have been a sapred modulent of a certain imppersone, paratoul only in the Caltau ordinees. It exists at the dates of monasteries, in comesteries, and principally as are sine of rosis and neer abstitute. The mry tran admit, & we was lantered of the dead erroses on the soil formerly Deillies notalbest the Love view a betablement at a moiste, of Christeasty.

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Note 3.p.189. Maword, Recherches aur les longues neltiphes; (Fee ine work of L. A. Lecourt, Recherches aur l'érigin des

Note 1.p. 153. This is not the place to discuss this cussion, which we propose to treat elsewhere. We must see only that we regard those nonusents os helansing to traditions preceding the dosinction of the Gelts.

STREET, SANCTON AND STREET, ST

tan contributes experienced instrmountable offrealtres, vorages, v

par in Celtic, a consedrated stone; fanare, to recite formulas of consecration. The Celtic deity of Cruth-Boda inhabited a p palace whose roof was strewn with nocturnal fires. ? Even in our days in some provinces of France, elevated stones . whose erection is attributed to the Druids, erroneously in our opinion. apass for self-illuminating at night, and for healing the sick, who sleep near them in the night preceding S. John. The stone of the maples (Touraine) among others, prevents nocturnal teerors. It is well to note that the menhir of the maples has a nole pierced in one part, like several of those elevated stones. Were not those holes arranged to receive a light? And if they must receive a light, were they pierced by the people that originally erected those blocks or later? Whether the m menhirs were stones consecrated to the light, the sun, or were preservative stones intended to avert sickness, to drive away evil spirits, or were boundary stones, traditions of the travels of the Tyrian Hercules, it is always the case that the lantern of the middle ages, habitually accompanied by a small altar, seems to have been a sacred monument of a certain importance, particularly in the Celtic provinces. It existed at the gates of monasteries, in cemeteries, and principally at the side of roads and near hospitals. One may then admit, t that the lamterns of the dead erected on the soil formerly Celtic have perpetuated a very ancient tradition, modified by Christianity.

Note 2.p.155. There existed a burning phoros near Poitiers, on the site of S. Hilaire, at the time of the baitle of Clovis against Alaric.

Note 3.p.155. Edward, Recherches sur les langues celtiques; (See the work of L. A. Labourt, Recherches sur l'Origin des ladreries, moladreries, etc.

Note 4.p.155. This is not the place to discuss this auestion, which we propose to treat elsewhere. We must say only that we regard those monuments as belonging to traditions preceding the domination of the delts.

The first apostlesof Gaul, Brittanw, Germany and Scandinavian countries experienced insurmountable difficulties, when they tried to cause the peoples to abandon certain superstitious practices. They were frequently compelled to give to those practices, which they could not destroy, a different aim

and direct tong, so so soeth, for see bineffs of the der relideas, retuer but to eink concromitad bhote Bosemoicke by ed appoint listoprat of the stillions so despir rootes. W. de Caurour trinks \* thet these lanteres of the doed during the and to adea mere expecially threehold for the service for the thei broadet from afar, and that nore not taken into the onston. we simile then there a cervice occurred in the concepty. ond that the langers of the feed took the place of the war s oncoles. Inst opinion is sheed by W. abbs Chouseau; 2 "The m notier couron alone," save v. Coussesd, "possessed without P -seron he existence out of househed winter and like motacique-q -due of their resulted from this, that icediantly the lord in and .a. and a donuction of the centre do a religious cody, main this reservence on his liberality, that the right of the times, was care of purist, was not comprised in the gift." Fact secivies ferench eds ich cariffic eres back and he account - er annuico bereste nen tant tan ;eldacora enase estrepanas as asseri years nigh to pathe at their toos in full daylight I liegted times, whose little could be perceived by some, and tars only with the revention of replacing lighted ov war candies, is doubital. If the tenterns of the cest had been interded boly to take the place of wax candles during inverments. to aculd hive been more nettral to take toem very low, and so arraged them the inter coald be seen in one daybine by thom consent. Parte on the contrary in these little moduments, bank seen dealfurd for the lang englosed in their apper lantern to be seen very far at all points of the norizon. W. Decountre. arcassologist of Poitiers, remarks that "the hollow columns or laggeres were ecocately erected in compostice concerns. on the orangipal roads of communication, or were in mon freneed an places, to balaks buss cause langerns were intented to asimine the alsont to rest ent north aniver end everesmon darkness, to proceed them from this nocturnal fear, from that torn mistand in occidence mentioned by the Padatet; fracily to trivit and to trivit to prayer for and dead." As for stivit of Abstant to these congacts, for exactle in the 12 to century. i seel on sas en juo ; ander ed oa eu oa sasedos esanionsi .k torpost or believe, been manife more painted or problems so the castons or saperstitude of very area solicator. To is to be redetited, that no leaventh of the dead opened to the

and divert them, so to speak, for the benefit of the new religion, rather than to risk compromising their apostolate by an absolute disapproval of those traditions so deeply rooted. M. de Gaumont thinks that these lanterss of the dead during the middle ages were especially intended for the service for the dead brought from afar, and that were not taken into the church. He admits then that a service occurred in the cemetery. and that the lantern of the dead took the place of the max c candles. That opinion is shared by M. abbe Cousseau! "The mo mother church alone," says M. Cousseau, "possessed without r restriction all the rights attached to the exercise of worship. That resulted from this, that frequently the lord in making a donation of the church to a religious body, made this restriction on his liberality, that the right of the tithe, the right of burial, was not comprised in the gift." That lanterns of the dead were utilized for the funeral services in cemeteries seems probable; but that men erected columns soseveral yards high to palce at their tops in full daylight 1 lighted lamps, whose light could be perceived by none, and this only with the intention of replacing lighting by wax candles, is doubtful. If the lanterns of the dead had been inten ded only to take the place of wax candles during interments. it would have been more natural to make them very low, and so arranged that the light could be seen in the daytime by those present. Quite on the contrary in these little monuments, that seem designed for the lamp enclosed in their upper lantern to be seen very far at all points of the horizon. M. Lecointre. archaeologist of Poitiers, remarks that "the hollow columns or lanterns were especially erected in cemeteries bordering on the principal roads of communication, or were in much frequented places. He thinks that these lanterns were intended to preserve the living from the fear of ghosts and spirits of darkness, to protect them from this nocturnal fear, from that form walking in darkness mentioned by the Psalmist: finally to invite the living to prayer for the dead." As for the idea attached to these monuments, for example in the 12 th century. M. Lecointre appears to us to be right; but we are no less d disposed to believe, that these columns belong by tradition to the customs or superstitions of very high antiquity. It is to be regretted, that no lanterns of the dead preceding the

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string that on the summit of Mt. Ide, delebroted is onriouity for the judicent of Paris, thene was seen the fleor of night forces, which jothered in a steep perfore the rising of the sun. Suripides says the same thing in the Projon Roses.

has of ase bost preserved insterns of the dead, desing from the 12 th confidency is ease it Celfronia (1). The intele deer for an interestance, lighted and nonevant the lame, elevated 18 for acove ase endougher clabifors on which fire shares in necessary to ase a ladder to instee one that and still end to the intelestance of Celman at the total of the short of the latera of Celman at the total of the intelestance of the same. As for the intelestance of the same as for the intelestance of the same as for the intelestance of the same and the land to accept the the color of the intelestance of the same color of the land to accept the color of the intelestance of the same colors and the land to accept the colors of the colors of the land to accept the colors of the colors of the land to accept the colors of the colors of

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12 th century remain to us, their existence is not to be doubted, since mention was made of them sometimes, among others at the battle of Chovis and Alaric, but we do not know the f form of those first Christian monuments.

Note 1.p.156. Cours d'antiquitées. Vol. KI. Note 2.p.156. Bull. monum. Vol. IX. p. 540.

Note 3.p. 156. Bull. monum. Vol. III. p. 452.

Note 1.p.1.2. To give here only a small number of examples of the antiquity of that tradition, Herodotus relates, that in the temple of the Tyrian Hercules, there was an isolated column of emerald (carbuncle), that of itself lighted the entire interior of that temple. The geographer Pomponius Mela claims that on the summit of Mt. Ida, celebrated in antiquity for the judgment of Paris, there was seen the given of night fires, which gathered in a sheaf before the rising of the sun. Euripides says the same thing in the Trojan Nomen.

One of the best preserved lanterns of the dead, dating from the 12 th century is seen at Celfrouin (1). The little door for introducing, lighting and noisting the lamp, elevated 18 ft. above the circular platform on which rises the structure; which fact assumes it necessary to use a ladder to light that lamp and raise it to the top of the flue. The lantern of Celfrouin, contrary to the adopted custom, has but a single opening at the top, by which one can perceive the light of the lamp. As for the little shelf placed beneath the lower opening, it cannot be regarded as an altar, but only as a rest f for placing the ladder and the lamp to arrange it before raising it.

Another lantern more complete than this, is found in the v village of Ciron; it dates from the end of the 12 th century. Placed on a broad platform raised 7 steps above the ground, it possesses an altar table, and at the right of that table is the opening necessary for the introduction of the lamp. (2). That opening was closed by a wooden shutter. We give at A the plan of the monument of Giron; at B is the plan at the level of the altar, and at C at the level of the upper lantern. Fig. 3 presents the elevation and section of the monument, s still preserved well today. The lantern is open, so as to allow the light to be seen from all parts of the norizon. Fig. 4 presents the perspective view and plan of the lantern of the

Test of Antisey, notes lesse from the mists of the 13 th century. According to cistor, the nonlinest rests on the platfor sees assect it is on a southe of these sites little alter with one steep, a lateral door for the introduction of the lamp, and four posmires at one too to allow the light to pass. The top was probably terminated by a cross like the two preceding examples.

The lambers of the dead lose their character of elevated woodes, and the isolated column during the 14 th century, a and age recladed by little oned chapels in valor was held a l

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dead of Antigny, which dates from the middle of the 13 th century. According to custom, the monument rests on the platform of these steps; it is on a square plau, possesses its little altar with one step, a lateral door for the introduction of t the lamp, and four openings at the top to allow the light to pass. The top was probably terminated by a cross like the two preceding examples.

The lanterns of the dead lose their character of elevated stones, and the isolated column during the 14 th century, a and are replaced by little open chapels in which was held a lighted lamp. (Art. Chapelle, Fig. 20). So that the old Gaulish traditions, that were perpetuated through Christianity until the end of the 13 th century, gradually changed form until their origins were forgotten.

LARMIER. Geison. Corona and Facia. Cornice.

A moulding taken in the height of a course forming a band or the upper member of the cornice, and designed to protect the surfaces by casting the rainwater away from the wall.

The geison of the Roman cornice has only a slight undercutting A (1) made beneath the projection of the projecting member of the cornice; consequently the rainwater before leaving the protecting stone follows the wash a b, fillet c, corona d and facia e. This principle is nearly followed during the Romanesque epoch, and even frequently then the projection being omitted, the water without obstacle washes the entire moulding to the surface of the wall, that those mouldings should protect. If the lay school of the end of the 12 th century subjected all parts of the construction to absolute reasoning, it did not neglect these mouldings; in execution of this it abandoned Romanesque traditions; it invented profiles in accord with recognized necessities, as it invented a system of construction based on new principles. That school then gave to t the cornices, i.e., to the courses protecting the surfaces, t the profiles most favorable to the rejection of the water. T This profile consisted (2) of a wash A, terminated at bottom by a drip B, sharply undercut. If it was desired to throw the drip water farther from the surface, there was added a moulding beneath the drip. (3). (Art. Corniche). This principle was f followed during the 13 th, 14 th and 15 th centuries; toward

the less see times as aimed to give appointed to the magn. and instead of cateins is place, it was made concave (4). But since that evidently wearened too soons, and also une filles -19org of case vent .sostate bevano jest et see ehin levere A is the edge of the cornics or drio seserited to the skeeph (5), acous the end of the 15 to century. The drip moulding persidsed tong diso to the arcer meduare of the Reposeence; because inless that ornerie was occurating wast suitable to ensure the sarisse ander a carate sauce rains are fraquent. As a fend-- moreo onare eyeves at turbloom ont to F delift and . sing las ancada era aberitues sear! . near tot lo entl and of referre and think in the architecture of the 12 th century of Ile-decount; they see muce ceffined and lover in Chancers; they o of FI and to like cappes and supple) stal asset of the century) in facting, and then they strays take the form of a wish with with the deep drip beneaug the wash.

ALLERY AND ALLERY

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in Termillos the late of the court of both % V fount hadselves in the accessity of relieving thanselves in the corridors, for lack of closens, from which it is concluded, that
with the dukes of Parendry or of Orleans in the factors,
and did not even take such precentions.

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charman of Versaillas, where the court resided direct run 13
can sentify, contained only such a limited number of orivies,
cans all the certainest of the court must have observed seats
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we remoner the case disseminated in the time of kind hours
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the latter time, men wished to give more lightness to the wash. and instead of cutting it plane, it was made concave (4). But since that evidently weakened the stone, and also the fillet A seemed wide beside that curved surface, they came to profile the edge of the cornice or drip according to the sketch (5). about the end of the 15 th century. The drip moulding persisted long also in the architecture of the Renaissance; because indeed this profile was certainly most suitable to ensure the surfaces under a climate where rains are frequent. As a general rule, the fillet B of the moulding is always drawn perpendicular to the line of the wash. These mouldings are strong and thick in the architecture of the 13 th century of Ile-de-France; they are more refined and lower in Champagne; they o only appear quite late (about the second half of the 13 th century) in Burgundy, and then they always take the form of a slab with wash and with the deep drip beneath the wash.

## LATRINES. Privies.

The word "latrines" is only used in the plural. It is freely admitted that our ancestors in their houses, palaces and castles, had none of those conveniences, that today one cannot do without (at least in the cities of the North); and that in Versailles the lords of the court of Louis XIV found themselves in the necessity of relieving themselves in the corridors, for lack of closets, from which it is concluded, that with the dukes of Burgundy or of Orleans in the 15 th century, men did not even take such precautions. 1

That negligence in satisfying the necessities of our physical nature was carried very far in the time, when men particularly thought of producing noble architecture. Not only the chateau of Versailles, where the court resided during the 13 th century, contained only such a limited number of privies, that all the personages of the court must have pierced seats in their wardrobes; but much smaller palaces did not have any whatever. Not long since all the apartments of the Tuileries were without closets, so that each morning it was necessary to have made a general removal by persons for that purpose. We remember the odor disseminated in the time of king Louis XVIII in the corridors of S. Cloud, for the traditions of Versailles were scrupulously retained there. This fact relating

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the of mandaperd (hower Raids). I and like those of the towers of Coardy cases all semade outside. The sent is emittely corbelled from the face of the wail. Tif. A gives the plan, Fished et a section, and Fish 6 the view of the corpositing of the sent with the disordere in certapicitie. Since there might be sent to fear arrows, that might be snot from outside, one will note that the constructor and the presentation of the self hore that the constructor and the presentation of the self hore that the constructor and the presentation of the self hore.

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cervy, welle the servent test accommiss on with a toron,

to Versailles is not exaggerated. One day when we were yarys young and visited that palace with a respectable lady of the court of Louis XV, passing through appestilential corridor, s she could not preven an exclamation of regret; "That smell recalls to me such a very fine time!"

Yet if the castles of the middle ages did not present facades arranged for beautiful symmetry, colonnades and pediments, they possessed privies for the lords as for the garrison and servants; they had as many as necessary and very well arranged. At Coucy the towers of the keep of the beginning of the 13 th century have privies in each story, constructed to avoid odor and all inconveniences connected with that necessity. The privies of the keep discharge into a large and well built cesspool, that could be emptied without inconveniencing the enhabitants. As for the privies of the towers, they were placed in the reentrant angles formed by the junctions of those towers and the curtains, casting all sewage outside on the wooded p precipice that surrounded the castle.

Here issome of those privies opening from a landing A communicating with the halls and stairs. B is the curtain, C the tower. From B to D is built a wall corbelled out and covering the seat E. At F is a urinal and at G the window. The sketch H gives the appearance of the privy externally, the sketh I is its section on A X. No odor is to be feared, since the sewage falls on the precipice.

Fig. 2 presents a privy that still exists intact in the castle of handsperg (Lower Rhine), 1 and like those of the towers of Dourcy casts all sewage outside. The seat is entirely corbelled from the face of the wall. Fig. A gives the plan, Fig. B the section, and Fig. 6 the view of the corbelling of the seat with the discharge in perspective. Since there might be reason to fear arrows, that might be shot from outside, one w will note that the constructor had the precaution to place a front slab descending below the two side corbels, so as to entirely protect the legs of the person on the seat, and formed of a simple perforated slab. At night when one went to themporivy, it was the custom to be accompanied by a servant bearing a toron. That custom seems to nave been abandoned only v very late. Gregory of Tours relates that a priest died in the privy, while the servant that accompanied him with a torch,

varied behind a corplete bath fell over and entrance: 2 and the not vancines of lease far and a reith. I about 1545, we read to take a knieth state of the read a knieth state of the read a knieth state of the read at the state of the state

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AS TOTO STOR II. Chopter 28.

Fote 1.p. 184. This drowing sos furnished to us by W. Gron. crepitact. This costle dotes from the 12 th century.

wote 8.p. 184. Journal du bourgeois de Rouen; Reuve retrempeatif normanis. Rub. by stare patilist. 1842.

Dessolois were one object of shealth asymmetry by constructor ors; we have numerous ursuples of the the castles of the nidele ages. They were veniced in score, with ventilation and

of common oravisa that area property need from the care of orange castles naving to costain a very great fairtison, there is aleves a cover or senerate builting reserved for planta cas orivies. At the castle of theory bears and the dress nail and the - Vicego al loccarso secum selvido Chedocuri stan anabodit sid ed. One sees commune of privies arranged for namerous-faceusons in one of the surse sasties of leancifur (loutes). In inf-Laid has cassle of baniley from inchesing a siste enabled ory building towered for priving, that mero escabliaged in a very morumental mainer. The sees very fine and larre ones at one castle of Faccoussis, nearly like those of Landler. The privies of the eastle of Wirsonshia, built an the 18 in centary, admines one of one election, control of narrow covered an structures without floors, whose oriving (3) 1 cornanions or to the spories of the alidiaine structures by means of doors and December (see orose section A). The observed was as C. and 1: ics wault was composed of two transverse aroges between which ossued the three flues from the entee scories of seaso, Those seads were four to each story, and from and droud D (ground sacey) to the roof, oraced about 2.9 ft. anore the unper winis a light were on floors. Plus vectilation could easily o waited behind a portiere that fell over the entrance; 2 and in the Memoires of Jehan Berthelin writter about 1545, we read to that a knight of the king, lodged at Rouen at the inn of the Cheval Blanc, that having risen and gone to the privy with a servant of the said lodging, both fell through the said privy and were drowned there. 3 In the Cent Nouvelles nouvelles, to there is also mention of personages, who were accompanied by servants. That explains why in the privies of the middle ages a large space was left before the seats, or often a sort of rather long passage between the seat and the entrance.

Note 2.p.164. Book II. Shopter 23.

Note 1.p.164. This drowing was furnished to us by N. Gran, architect. This castle dates from the 12 th century.

Note 3.p.164. Journal du bouréeois de Bouen; Revue retrospectif normande. Pub. by Andre Pottier. 1842.

gesspools were the object of special attention by constructors; we have numerous examples of them in the castles of the middle ages. They were vaulted in stone, with ventilation and openings for emptying. But particularly in the construction of common privies that the architects made proof of care. In castles having to contain a very great garrison, there is always a tower or separate building reserved for placing the privies. At the castle of Goucy between the great hall and t the kitchens were important privies whose cesspool is preserved. One sees remains of privies arranged for numerous garrisons in one of the three castles of Champigny (Poiton). In England the castle of Langley (Northumberland) exists a four story building intended for privies, that were established in a very monumental manner. One sees very fine and large ones at the castle of Marcoussis, nearly like those of Langley. The privies of the castle of Marcoussis, built in the 13 th centary against one of the curtains, consist of narrow covered st structures without floors, whose privies (3) 1 communicate with the stories of the adjoining structures by means of doors and passages (see cross section A). The cesspool was at C. and i its vault was composed of two transverse arches between which passed the three flues from the three stories of seats. Those seats were four in each story, and from the ground D (ground story) to the roof, placed about 3.3 ft. above the upper window E. there were no floors. Thus ventilation could easily o

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occur, and the odor was not carried through the doors B into the adjoining buildings. At F we have traced the section of t the building parallel to the seats, and to show them, we have assumed the balustrades G to be partially removed.

Note 1.p. 187. After an old drawing in our possession.

At the castle of Pierrefonds, whose construction dates from 1400, there is a tower beside the barracks of the garrison. for the privies and that was entirely destroyed. We give (4) sketches of that singular structure. At A is reproduced a plan of the tower at the level of the soil outside, the castle. which is the ground of the ditch; at C is an opening for removal; at D the ventilator, and at E the mass of cut stones plplaced at the centre of the cesspool to facilitate removal of sewage. Sketch B gives a plan of the second story (ground story for the court of the castle). From the halls G one could reach the privies only by the long corridor F with two doors. the hall H possessed a row of seats at I and a flue L to discharge from the privies of the two upper stories. The perspective section made on B K shows at M the cesspool with the mass N and ventilator O; at P are the seats of the ground story: at R the seats of the second story, and at S the seats of the third story. To show the floors of all the seats, we have assumed the floors removed. The last flue S is extended by a 1 lateral flue up above the roofs, so as to produce a draft, a and near the extension pipe of that last flue was arranged a little hearth to increase that draft. It must indeed be recognixed that many of our establishments occupied by many persons. such as barracks, colleges and seminaries do not have privies so well arranged as these. Note that by the lateral open ing for removal of the central mass, it was very easy to clean out often and quickly; that this central vault contained a considerable volume of air; that it was doubly ventilated, and that consequently not much gas could pass into the rooms, which were ventilated by windows; that also all entrances arranged in the different stories of this tower consisted of long and bent corridors, themselves ventilated and closed by double doors.

In the same castle the privies of the great residence of t the lords or the keep are arranged with extreme care in a narrow part of the building and receive air from both sides, isLuciated and country the minimag of and oriving to and Jorta.

(Arts. Bonjon, Figs. 41, 42, 48). To is necessiry no state and the minimage of the great priving for the marrison jus illingtered in the precisit fife. Inserting committee to the forth. The second in the precision devoted to the construction of these inserts of first of high inserting first of high inserting the base men dere per content first of all, in product white are termed condition can sent antical attraction after the near the base of the inserting and the paleon of notice, white do delicated condition is ablieved to architectus mane respective, we are the dollowing the first of architectus of a paleon of notice white do delicated for good took and and the sent for good took and the se

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isolated and opening the windows of the privies to the North. (Art. Bonjon, Figs. 41, 42, 43). It is necessary to state that the windows of the great privies for the garrison jus illustrated in the preceding Fig. likewise open to the North. These minute precautions devoted to the construction of these important parts of habitations give place to extreme negligence. toward the end of the 16 th century. But then men were preoccupied first of all, in producing what are termed beautiful and symmetrical arrangements: that the convenience of the inhabitants of a palace or house, what we call comforts, was subject to architectural conditions made rather for gods than simple mortals. In closing, we must not omit to warn our readers against the tales of oubliettes (dangeons) told by all de guides charged to conduct amateurs of feudal ruins. Nineteen times out of twenty, those oubliettes, that so vividly move visitors to castles of the middle ages, ane common privies. just as certain torture chambers are kitchens. We have several times seen the cleaning of the cesspools of castles, that were regarded with respectful terror, as having ingulfed unfortunate men; mingled with much sewage are found a quantity of the bones of rabbits and hares, some coins, potsherds and dead cats in abundance.

## LAVABO. Lavatory.

A great basin of stone or marble with water flowing frsm a number of little orifices pierced around its edge, into autom er basin, and designed for ablutions; by extension the name of lavatorw has been given to the room or area in the midst of which rose the fountain. Most cloisters of religious possessed a lavatory. Sometimes it was placed at the middle of t the court under the open sky, more frequently beside one of the porticos of the cloister or in an angle, and then the lavatorw was covered; this was an annex of the cloister toward which the religious passed before entering the refectorw and on returning from the labors in the fields, when they worked there. The Cistersiaus in the 12 th century prided themselves on returning to the first rigors of the monastic life, who e excluded from their monasteries everw luxury and superfluity. still constructed lavatories in their cloisters, not arranged as a motive of decoration, but as an object of primary necessity. fortaid bus Dienscource of the 12 to contact ordinal posters and the contact ordinal posters and the contact ordinal contact ordinal contact ordinal contact ordinal contact ordinal contact or the contact ordinal contact or contact ordinal contact ordinal

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Fig. ? trasects the station of that lavacory on a b. 1 corremubly so rectails of the order of classum, and room is extreasty sample, cavared by a stone done of 5 class with ribs in the recoursor saflos.

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ind. 4 organos a cersosorive view of this lavatory maken for a condition of the condition o

se so die faven progressie, and that must present a promising

Indeed the Cistercians of the 12 th century occupied themselves in rude manual labor; it was necessary for them to wash off the dirt covering their hands before entering the church or the refectorw. Thus we see that the lavatories of Cistercian monasteries are an important part of the cloister. The a abbey of Pontigny possessed a lavatory whose basin still exists, that of Thoronet, 12 th century, on the contrary, possesses a structure that contained the basin, while that has disappeared.

Here is the plan of that lavatory; it is a hexagonal room a adjoining the portico of the cloister extending beside the r refectory; the religious entered the lavatory by one door and left it by the other, so as to avoid all disorder; thus they ranged themselves around the basin to the number of 6 or 3 to perform their ablutions.

Fig. 2 presents the section of that lavatory on a b. 1 conformably to the rule of the order of citeaux, that room is extremely simple, covered by a stone dome of 5 sides with ribs in the reentrant angles.

Note 1.p.171. See the engrowings made after the drawings of M. Questel, in Archives des monuments hostoriques, published under the auspices of the minister of State.

The abbey of Fontenon near Montbard depended on the same o order, and possessed beside a portico of its cloister a lavatory of remarkable construction. (3). 7t A was the refectory. The religious filed into the lavatory by one arch and left by the other at Theronet. A central column passing through the basin B supported the imposts of four cross vaults with transverse arches. This hall was sufficiently spacious to allow 15 religious at least to stand around the basin, was low like the the porticos of the cloister, and consequently was sheltered from wind and sun.

Note 1.p.172. There are still seen in place the two entronces of the lauatory, and we found in 1844 among the rubbish scattered in the cloister, fragments of the piers of the hall, whose perimeter appeared above the ground of the court.

Fig. 4 presents a perspective view of this lavatory haken f from the point C, assuming the vault cut from a to b. This w was an edifice whose a raugement was rigorously made according to the given programme, and that must present a pleasing

ad er. allowed when a representation and recommendation. L. D. il. T chart and to inscreek of the picture and the transfer of the trans -cit said add with the core of order father from the inand of sound for abolians of the piers is modelitario. The see and coordant are mede of a single coorse. This mode of a construction added to see Arand character of the monument in some of its deal Augustian. The acoup of 9. Denis possesses s very beautiful basin in its oforeser, sawe served for the a ciactons of the norts; that then several of now mittel of the second court of the acole des Benna Arre, dance form the is no oppound, and has a remarkable profite, and onecauda se itraly accumi is beened ere it is a mest acciptured to seathful style. T you and near orgin not cooder toward ico die besia for the Litty authorious, they copeeared there-. 17.3 wide a mili main i organist or semicircular trough aroound of near it.

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LAVAPOLAS. SHVALORY for the Dade.

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appearance, although its architecture was very simple. The be beautiful limeston e materials at the disposal of the religious of Wontenon permitted them to erect this hall with large blocks of stone; the nucleus of the piers is monolithic, the bases and capitals are made of a single course. This mode of c construction added to the grand character of the monument in spite of its small dimensions. The abbey of S. Denis possessed a very beautiful basin in its cloister, that served for the a ablutions of the monks: that basin is now deposited at the m middle of the second court of the Ecole des Beaux Arts, dates from the 13 th century, and has a remarkable profile, and presents entirely around it between the jets a head sculptured in beautiful style. When the monks could not conduct water into the basin for the daily ablutions, thew contented themselves with a well with a circular or semicircular trough aroound or near it.

Note 1.p.174. See the engraving of that basin in Examples de decoration of M. Leon Gaucherel.

Note 2.p.174. See the cloister of the cothedral of Gerona. Still in Spain the monasteries possessed magnificent lavatories. The vicinity of the Arab establishments, in which an abundance of water was regarded as a uccessity of the first order, must have exercised a certain influence on the construction of the cloisters. Also the monasteries of the south of France one formerly lavatories best arranged and most spacious. It is to be regretted that those halls, that lent themselves so well to architectural compositions, have been destroyed e everywhere, from before the end of the last (18 th) century, by the monks themselves, who no longer submitted to the rule of washing themselves together at the same time. Lavatories sometimes consisted only of a great trough of marble, stone or bronze, placed at the entrance of the refectory. (See Art. Lavoire in the Dictionnaire du Mobilier).

LAVATOIRE. Lavatory for the Dead.

A trough placed in a room near the cloister of a monastery, and serving to place and wash the dead before burial.

The custom of washing the dead before interring them is a practice that dates back in antiquity, 3 and that was retained until the end of the last (18 th) century in some provinces.

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as for example in the Basque country, the suburbs of Avranches and Vivarais. Ford de Moleon thus describes the lavatory of the abbey of Cluny:- "In the midst of a very spacious and very long chapel, where one enters the chapter from the cloister, is the lavatory, which is a stone 6 or 7 ft. long hollowed some 7 or 8 ins. deep, with a stone pillow of the same block as the trough; with a hole at the end of one side at the foot, through which the water runs after the washing of the dead." The author gives a drawing of that lavatory, which we present here (1); he adds that there are similar stones in the hospital of the city of Cluny, in the chapter of the cathedral of Lyons, in the vestiary of that of Rouen, and on nearly all monasteries of the orders of Cluny and of Siteaux.

Rate 3.p.174. See Acts of the Apostles, Chop. 9; Sidenius Apollinare. Book III. Letter 3.

Note 4.p.174. Voyages liturgiques en France. Paris. 1718.

LEGENDE. Legend. Story.

This word in architecture is applied to grouped representations, either scalptured or painted on the wall or on glass, of legendary subjects, as for example the story of the prodigal son, the story of the bad rich man, or indeed certain lives of the saints related in the begende doree. The portals of our cathedrals of the middle ages frequently present legendary subjects sculptured on their bases dating from the end of the 13 th century. At the cathedral of Auxerre, on the portal of the Calende of the cathedral of Rouen, on the western portal of that of Lyons, are seen very fine sculptures representing legendary subjects. But especially on glass extend the innumerable series of this sort of subjects. (Art. Vitrail).

LICE. Lists. Barrier.

A barrier or palisade, and by extension the space reserved between the two enclosures of a fortified city, or between the walls of the external barriers. (Art. Architecture Militaire). The name of lists was also given to the enclosed fields intended for exercises, jousts, tourneys, passages at arms and judgments of god.

When ar army encamped and surrounded itself by a palisade, one said "leave the lists" instead of leaving that palisade.

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20te 1.p.175. 20mon de 2082. Verse 12, 127.

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Note 2. p. 176. Is prise d'Orange, Ktilton of Orange, ballod of the 11 th on! 12 th centuries; bublished bu N. N. J. i. 3

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DESCRIPTION AND ACCOUNTS

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When Harold came from London before William the Bastard, he caused his army to be placed behind palisades. On the morning of the battle, Harold went to reconnoitre the enemy. (Old French poem).

Note 1.p.175. Roman de Rose. Verse 12, 125.

After the battle of Mansourah or Massoure, spies came to w wann S. Louis, that he would be attacked very early the next morning in his camp. (Old French text). Thus in a camp made with haste, the piles forming the barries were spaced apart so as ts permit men on foot to pass between them. Those piles thus formed a series of merlons, that did not prevent the infantry from throwing themselves on the assailants, but which stopped cavalry charges, and allowed the soldiers to rally, if they were compelled to retraat.

Note 1.p.176. Hist. de S. Louis. Joinville. Bublished by M. F. Michel. 1858.

Castles were always surrounded by barriess, i.e., bu barriers of palisades, sometimes with ditches, that protected the foot of the ramparts, and allowed men to make the rounds outside, when it was invested. That was a tradition of the warlike peoples of the North. (Old French poem).<sup>2</sup>

Note 2.p.178. La prise d'Orenée, William of Granée, ballad of the 11 th and 12 th centuries; published by N. W. J. A. J. Jonckbloet. 1854.

This means that the castle of the city is of masonry, vaulted and enclosed by a wooden palisade.

LIEN. Strut. Brace.

A term in carpentry. - wooden timber having a tenon at each end, and that is set obliquely and connects the kingpost with the principal or with the ridge of the carpentry of a roof.

(1). A being the kingpost, B the principals, the timbers C a are braces; D being posts and F the ridge, the tembers G are braces.

LIERNE. Robs. Purlines.

Ribs of a cross vault that connect the crown of the diagonal arches with the crowns of the side diagonal arches (tiercerons). The ribs A (1) are liernes. (Arts construction, Voute).

In carpentry the tiebeans (liernes) are horizontal pieces of

roof conrecting at meany once the fries floors. Jens directions, to receive the boists of the fries floors. They are stad carved themer a classed norifonality between the principality of a confect that, and which serve to receive the rateors from the care at nearly erast distances in the relate of the roof. The campers A (1) are likenes. In the roof of cylindrical terre, these are necessary when the carpenter is of cylindrical terre, these are necessary when the carpenter is the arranged as make each refer in theorem. Inches one of the roofs of the middle assaily always abouted in the carpenter of the riches. Since the 11 th century have been employed as to earner of the first of the middle assail the ray have been employed to earner of the first of the carpenter formed a care of the first of the mass of the first of the care of t

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An inclined times the supports the steep of a segira at the ond opposite the sail (art. Escalier). These attines not being amployed in the atonisection of the argule sees, the winding steeps in stairs of schere or rectangular plans being always supported on atones, this is much nore stacle than the system of masory success.

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A plost of stone leid on the jambs of a deer or diston to the same purcoses is also termed linkel. (Arts.

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is contribed detained two bers, the apper and lower bede; notarally the upper bed of the fearty as the issert of of the one uext above. The Greeks set their deterrals dressed w axed ity pototes, marple or stone, and mishout morear. In 200xt hashiry for former its one same, and ones with such periodwood connecting at their base two kingposts lengthwise the roof, to receive the boists of the false floors. They are also curved timbers placed horizontally between the principals of a conical rsof, and which serve to receive the rafters, when these are to be spaced at nearly equal distances in the height of the roof. The timbers A (2) are liernes. In the roofs of cylindrical towers, these are necessary when the carpentry is not arranged so that each refter is trussed. The method of trussed rafters being nearly always adopted in the carpentry of roofs of the middle ages, it is rare to have recourse to liernes. Since the 1: th century they have been employed for spheroidal carpentry forming a dome.

LIMON. String of Stairs. Horse.

An inclined timber that supports the steps of a stairs at the end opposite the wall (Art. Escalier). Stone strings not being employed in the architecture of the middle ages, the w winding steps in stairs of square or rectangular plans being always supported on arches, this is much more stable than the system of masonry strings.

LINCOIR. Lintel. Header.

A carpentry term. Wooden timber placed horizontally over d dormers or chimney caps to receive the rafters of the roof.

LINTEAU. Lintel.

A block of stone laid on the jambs of a dosr or window to form the upper part. In carpentry a horizontal wooden timber that fulfils the same purpose is also termed lintel. (Arts. Fenetre, Porte.

LIS, FLEUR DE. Fleur-de-Lis. Art. Flore.

LIT. Bed.

Horizontal setting surface of a cut stone. Each cut stone is comprised between two beds, the upper and lower beds; naturally the upper bed of the stone receives the lower bed of the one next above. The Greeks set their materials dressed w with dry joints, marble or stone, and without mortar. In great masonry the Romans did the same, and that with such perfectations.

nerisabled, vola in first and famin all solders thin of our stand of marcis, one detreely percurse the joint between and clocks. This makes where initated dariad the civile says, particularly in countries where there existed a dreat doubler of antique apparents, as in France and rangual-or, but the initation is very far from attaining the perfection of the actions are the perfect of the first and daries and very solders and very antique and the beast of the first of the contribute and formal and double and for marker are very totak from the Merovierian econ. The beast marker are very totak from the Merovierian econ. The beast marker are very totak from the Merovierian econ. The beast marker are very totak from the Merovierian econ. The beast marker are very totak from the 7 to to the 12 to contact as

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perfection, that in Greek and Roman structures built of cut stone or marble, one scarcely perceives the joint between the blocks. This method was sometimes imitated during the middle ages, particularly in countries where there existed a great number of antique monuments, as in Provence and Langued oc: but the imitation is very far from attaining the perfection of the antique stonecutting in regard to the beds. In the provinces of the Centre and North of France mortar was employ ed between pointed stones from the Merovingian epoch. The beds of mortar are very thick from the 7 th to the 12 th centuries: they became thinner and regular at that epoch. receiving a t thickness varying from 0.4 to 1.2 ins in the 13 th century. when were erected great religious edifices, castles and palaces: they they again became thinner during the 14 th and 15 th centuries, but always retaining a maximum thickness of 0.4 in. As for the cut beds, they are plane, well dressed and without holes from the 12 th to the 16 th centuries. In the structures of the middle ages the pleds are dressed with as much care as the faces.

wen call the stone set on edge, when the quarry bed is vertical instead of being horizontal. Einestones are formed by a series of deposits, marine, lake or river, and thus consist af superposed more or less homogeneous layers. When these layers nave not been strongly cemented naturally, they tend to separate. It is then important to set stones on their quarry beds, i.e., conformably to their geological positions. Yet t the Romans and the constructors of the middle ages did not commit anfaultline employing limestones set on edge, but then they chose with care those, that could assume that position without danger. (Arts. Construction, Joint).

LOGE. Loggia. Bay Window.

A room or portion of a gallery belonging to a public or private edifice, raised above the external ground and opening wowldely to the exterior without glass or permanent enclosure. The loggia partly resembles the portico, partly the gallery, still it is necessary to distinguish it from those two architectural members. The loggia differs from the portico because it is raised above the public street, possesses a special entrance, and it: length is limited, while the portico is cover-

er to proted easted the language language of the large of the souses refer trom the cocheties delient to the important ospir, thus bors is sociosed by siers warers or grabbans, and aton to boy cuous we enger occied on the pacing sirais. one locata eracos in the southern provinces, weete it can care a section a villive. In one classes, one always prefers so enena pi penteo de .ainin lis 50-000 alian secan de meca isse. toolier orgress of casta to and to the controller of collect colocide from a coord trose earlines satisfied for actionseries of crisens, covered by vanies or accessor to accessor avoid one rays of the sun. In those locales bus merchique send of thek of waste offeren, as poler in enchances and older of One rewilly souchty a trad in Parice and parions, and commayboar to the ereac loin a real meet of encloses for news seel to stop siles vano eres vent enclosed prefer to accord vess, trad right out beneas in was train of its offer da punda sinca sinca acidad dand , se est of asinca sinca ero the tous of Testies besteenions, and that are arranged for in -34 PA TA TA TANK AND AN AN AN ANTANA TO BE THE TANK OF THE PARTY.

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covered and of indeterminate length. The loggias belonging to nouses differ from the corbelled gallery in the important point, that this is enclosed by glass sashes or shutters, and adds to the rooms an annex projecting on the public street. The French architecture of the middle ages scarcely accepts the loggia except in the southern provinces, where it can have a certain utility. In our climates, one always prefers an emlosed room to those halls open to all winds, so common in th Italian cities of the 13 th and 14 th centuries. Italian municipalities freely erected those edifices suitable for assemblages of citizens, covered by vaults or wooden ceilings to a avoid the rays of the sun. In those loggias the merchants came ti talk of their affairs, as today in exchanges and clubs. O One readily conceives that in France the parlors, that correspond to the great loggias of Italy, must be enclosed for nine months of twelve; therefore they were only halls more or less vast. Also likewise in our houses it was rare to find under the roofs those loggias, that custom causes to be opened at the tops of Italian habitations, and that are arranged for br breathing the cool air of evening. Yet the loggia was not absolutely banished from our northern habitations. There still existed a few years since on the square of the cathedral of taon a small house of the 13 th century, formerly belonging to the chapter, that possessed a loggia at the base of its roof, arranged with a shed roof and stopped at the corners by turrets.

mig. 1 gives a perspective of the facade of that house. At the base of the roof and recessed was constructed in wood a l loggia, that returns to the two eave walls, and then passes under the roof. It was like the defensive gallery with its wa watch towers.

fig. 2 presents at A the plan of the facade of the house, of the story beneath the loggia, and at B the plan of that loggia. The adjoining loggias of the roof take the name of "soliers", (eave galleries), like the roofs themselves; they serve for defense, permit seeing all that passes outside, and afford an excellent drying place for the occupants. Note that those eave galleries are low, well sheltered and closed at the ends.

In the vicinity of the market-places were also sometimes es-

considered lifeties bearing described by distribution and action and control section bearing action and so into the section of the control priests of the section and care and care as a section of the s

On the flaceted of city balls, bullers, mansions of realthy octives a men, sometimes though very recely to france, are log-stable actuary illes projected by records, 1.6., supported on

everything, are only covered palounies. They were less mare in one continues of mor lass and learnes, then in the provinces of mor last and learnes. Some nouses of life if lonerly noseessed their they were found as Netz. Terian and on the onals of the thing, as proved by numerous engravings of the if to consumes. These coupelled locates of the if the consumes. These coupelled locates of the coupel of the doors of the coupelled locates of the coupel of the doors of the coupel story, once of ast of noot over the coupelled.

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28c15, there was thus a vestibule mitable plans, that could

melt pass for a loggis (icc. isositer, Fig. 3). fint vectib
id consissed of two bays opining on the court of the S. Onco-

established loggalas elevated but little above the ground of the public street beneath several houses to allow the merchants to conduct their affairs under shelter from sun and rain. There still exists at Vire a small loggia of that kind arranged beneath anhouse of the 14 th century. Nothing is simpler than that structure (3), which consists of two piers and two stone columns resting on a low wall; with a paved area and s some steps placed at each end next the public street. The facade of the house is of half timber work filled in with brick and rests on the piers and columns, so that this loggia is a nothing but a raised portico with a low wall beneath its columns.

On the facades of city halls, palaces, mansions of wealthy private men, sometimes though very rarely in France, are loggias arranged like projecting bay windows, i.e., supported on corbels. By their small dimensions these loggias, properly speaking, are only covered balconies. They were less rare in the provinces of the East and Southeast than in Ile-de-France, the provinces of the West and Centre. Some houses of Dijon f formerly possessed them; they were found at Metz, Verdun and on the banks of the Rhine, as proved by numerous engravings of the 16 th and 17 th centuries. These corbelled loggias or rather open bay windows, were placed over the doors of houses in the second story, thus forming a sort of hood over the entrance.

We give (4) one of these that we found very well in a French manuscript of the 15 th century in the library of Munich. It was entirely made of stone, covered by lead, and placed over the doorway.

The wars in Italy at the end of the 15 th century inspired French lords with a taste for loggias; but the architects of the beginning of the Renaissance, who retained the sensible traditions of the art of our country, decided with difficulty to give them the appearance of a structure open at three sides; they rather treated them as low portices of reduced length, opening only in front.

At the top of the stairway of the Chambre des Comptes in P paris, there was thus a vestibule without glass, that could well pass for a loggia (Art. Escalier, Fig. 3). That vestibule consisted of two bays opening on the court of the S. Chap-

-se can to eachi stil panis ductrum even senove edi :-limas: sterly, and were Clauked by howersdee Accorded by anabue. "as lowers, a faret vestimits of and seamond, man very rich. an one our faire ov our Fad. 5, water gaves so externel oursnestare. Salar in the emound story and the dongrey of the L laffing of the first baileff and of the centives of face. The treat covered landice was we give here as a looks tuck tas olace of ana little vaiting rail. Te posaess at Paris s montaand very remarking by the style of its aronthocourt, and -one and trained to the soule of the Italian legitas, the money avert nels ions the fountain of the Tancoests. That loggia constree of table prones, two in front and one in center; To the Stateful Burd, beion the area in return, on the panaine was a Pougada. Paluarcades were found between the olars. The logle tensio sis de heaseme saw eduscinal de missauch end le eithe c. Delie and of due aux Pers. Trene forcon as the anna-1930 and Jawa Gonjum the monlocor. In 1708 it was taken foun wers ness ever in their ademption air edam and il ont toucked be tores recently donowist, a wolumest to which it is son diffiwiller boasareban to need one for les measures of lies ny nee had the thes of pincint a floring francain at 12.7 cm in. 3 Cs. nien acove the écound, and any mass placine it so a side, is ass jurged necessary to days in flow occesses a dome. unior seet ser from the rain. In a socrous a covered fourtain, of a passen of passens, but a jot of names to possen at an a. it -sir .ellerons of it heem on sad vinistree angard is finanvo or ali, its occurre soulotures of the monument remain to us. especia end to eninis squae in some bed a er fluor seend ins thereformations suffered by the architecture of Pierre Lagor. de nortes est the works of Israel Sylpestre, Merion, &

iple 1.0.185. See the works of Isroel Sylvestre, Merion, & ond in the Topog. de lo France, Trp. (thr. ry, the fract drar-tops of the Chambre des Comptes.

Note 2. p. 105. See the works of Israel Sylvestre.

TOPASES. Dorner or la mern Window.

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en coemins made in the since of a roof, destined to live one were made with section During the civile area dormers were made with sections. Standard between nowers were atomed only the ine

Chapelle; its arches were without glass like those of the stairway, and were flanked by buttresses decorated by statues. 1 The loggia, a first vestibule of the chamber, was very rich. as one can judge by our Fig. 5, which gives an external perspective. Below in the ground story was the doorway of the 1 lodging of the first bailiff and of the receives of fees. The great covered landing that we give here as a loggia took the place of the little waiting hall. We possess at Paris a monument very remarkable by the style of its architecture, and that was treated in the style of the Italian loggias, the monument made into the fountain of the Innocents. That loggia consists of three arches, two in front and one in return: In the substructure, below the arch in return, on the outside was a fountain. Balustrades were found between the piers. The loggia of the fountain of Innocents was erected at the corner of Rue S. Denis and of Rue aux Fers. Pierre Lescot was the architect and Jean Soujon the sculpter. In 1785 it was taken down by pieces, and it was made the monument that we have seen restored recently somewhat, a monument to whichlit is now difficult to assign a meaning, for one does not understand well w why men had the idea of placing a flowing fountain at 19.7 or 26.3 ft. high above the ground, and why when placing it so h high, it was judged necessary to have it flow beneath a dome. under shelter from the rain. One accepts a covered fountain. if it be in reach of passers, but a jet of water crowning a pyramid of basins certainly has no need of an umbrella. After all, the charming sculptures of the monument remain to us. and there would be a bad grace in complaining of the strange transformations suffered by the architecture of Pierre Lescot.

Note 1.p.185. See the works of Israel Sylvestre, Merian, & and in the Topog. de la France, Imp. Library, the great drawings of the focade of the Chambre des Comptes.

Note 2.p.185. See the works of Israel Sylvestre.

## LUCARNE. Dormer or Luthern Window.

An opening made in the slope of a roof, destined to light the attic. During the middle ages dormers were made with stone fronts, others being entirely of wood, visible or covered by lead or slates. Dormers however were adopted only when the roofs had assumed great importance. During the Romanesque peormind, has extremely of err rough select floor flag, end noted and concrete mily so little brown by intrace, since lineinth social does be arranged about from the 18 th century nable selected were provided ov roots forming at least an equilaberal tended to accept the construction these lands of these roots was utilized by construction these openhers lithted and various ty doese. Liver was diven the neme of managed to these minimas. (?). And to Managet has been eiven the none of referring him as a cast to manage of the construction of the construction of these continue of the construction and occurred on the construction and occurred builtings in the "organisms of effect none.

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ace even fitted with a transport bar of secre, as in the emanple given bere (1). The jambs are showed by two hittpresss bark live that a re-rick on the top of the wall; limits directles even a versus around there buttresses and orst the mater from the versus around there is no versus and orst the mater from the versus around the versus and orst the versus are the versus are versus and orst the versus are the versus are versus as a versus are versus as a versus and or the versus are versus as a versus as a versus are versus as a versus are versus as a versus as a versus are versus as a versus as a versus are versus as a versus are versus as a versus as a versus a versus a versus as a versus a

Formissed with erest darkeylog. The littel of one stone bears with is the bao little side dath, a second block of shope forms the noex. The coplage of and still nave intes orions and terind, so as to cover the state roof? of the nemer. As to everis are receised on the jambs; this kind of drawer is contained as the case of the nemer. As no in the two sauge. Somethines, the three is contained, the two sauges are is contained, the two sauges are is contained and the coolines have cooded in the two sauges are is contained an the roofs. The two sales the success half of the 13 in century and undertied the success halfs because ore toofs. These cases and the cooline the the transfer of the 13 in century and undertied that floor placed only are said invertupting that. The corooners was composed only nice, and invertupting that. The corooners was composed only

orincionis extendind down to the olooks. (its. Costonne, Fit. 24). The inportatoe of these dorners (Eithern) required parm - cular care in the treeseary tree

period, the carpentry of the roofs being generally flat, there was no opportunity to light them by dormers, since lodgings could not be arranged there; but from the 13 th century habitations were crowned by roofs forming at least an equilateral triangle in section; the lower part of those roofs was utilized by constructing these chambers lighted and vaulted by domes. Later was given the name of mansards to these windows, (?), and to Mansart has been given the honor of regarding him as the inventor of these openings, which existed on all public and private buildings in the North long before him.

We shall first occupy ourselves with dormers whose stone f fronts rest on the cornice in the plane of the wall. The 13 th, 14 th and 15 th centuries furnish us with a great number of examples of this kind of openings, composed of two jambs with sill and a lintel terminated by a gable and a tympanum. These dormers with stone fronts are generally too high for a person to approach easily and look out into the street; their openings are even fitted with a transom barsofostone, as in the example given here (1). The jambs are abutted by two buttresses that give them a bearing on the top of the wall: little gargovles extend around these buttresses and cast the water from the v valleys into the gutter A existing between the dormers and f furnished with great gargoyles. The lintel of one stone bears with it the two little side gables. A second block of stone f forms the apex. The copings of the gable have drips before a and behind, so as to cover the slate roof B of the dormer. Re Reveals are recessed on the jambs: this kind of dormer is common in the 13 th century. Sometimes, though rarely at that i epoch, the tympanums are decorated and the copings have crockets. Yet these crownings of edifices, outlined on the roofs. do not delay in receiving a very rich ornamentation. It was customa y during the second half of the 13 th century and u until the 16 th to place great halls beneath the roofs. These ceiled halls could only be lighted by very high dormers extending down to the internal floor placed below the external cornice, and interrupting that. The carpentry was composed only of trussed rafters, whose collar beams were fastened to the principals extending down to the blocks. (Art. Charpente, Fig. 26). The importance of these dormers (Luthern) required particular care in their construction, for it was necessary that

Robert amona from the compact them there there there arened sessive for conversations of the same and all leave of calengest about be avoided between one shore and the roofing. and to according on the contract of the according to the the same, these concausions related to the atebality of & The construction of the very different materials are nightly observed. Te neve in our dine thousand this came is the south of devails ov ourse rule meers, soon as plasted forgings and Elio jaccines; bdt sisc is is pecessery to continually sent one residers to results the primitive defects of and bidly areites construction, or at least in over to figure the sock in a colerable manner, so news one mesons forlow has notions severt times it those 'eligano opinus, the coffees the manage also at several river. To occ.e old summe of isopeanos, when toe meson bed fittened ais work, since ones ene carpenter am seed too ct as betrarts os sretter bouch pase to not here no revers were that slees and last eresting were placed. Tip. 2 snors one of hoose frest dormers of ceiled roofs. As A we sive the northernal section mate at the level a b of the face ?. The copyring of the building mits is downer is at Mr and from o' bar dother is shouled inversity by the buttress F and occide by the palacters 3, scainer weren are attached ous carsepary sades. Intale channels H collect the water from one roof, that runs aloud those miss to fall into the dutters (see and no dea I sedien out of . O nordevalo sine eac) (see dear elevation () are functional big timbers forming the nevoo of don se os pailing franchi end belvisors ins stedien the branson ", the rechangular sashes along presents. Dorners of tous know existed on the raises as Paris, on the Structured of the beginning of the 11 to century, on the castless of the seess, Aully, Court, and Distrateness (seemanage of it to con-Allicante Nacional de la companya del la companya de la companya d

le and end of the 12 to concur, see very common.
Note 1.p.126. From a house of Ecoupais of the 13 th contury,

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In certain provinces of France, like Frittany, Picerdy and Cortanity, those see a outship during the 14 th and 17 th contains uties, of divine to certain country buildings and buildings of cetties e low method, ordered than by endmands roofs, for although these buildings have single in winth, they sometimes

their stone fronts could support themselves, that they should beceive the penetrations of the carpentry, and all leaks of rainwater should be avoided between the stone and the roofing. According to the customs of building by the architects of the middle ages, these precautions relating to the stability of t the construction of the very different materials are minutely observed. We have in our time replaced this care in the study of details by quite rude means, such as plaster furrings and zinc junctions; but also it is necessary to continually send the roofers to repais the primitive defects of the badly studied construction, or at least in order to finish the work in a tolerable manner, to have the masons follow the roofers several times at these delicate points, the roofers the masons also at several times. In those old times of ignorance, when the mason had finished his work, there came the carpenter and then the roofers each found matters so arranged as to not have to return when the last slate and last cresting were placed. Fig. 2 shows one of those great dormers of ceiled roofs. At A we give its horizontal section made at the level a b of the face B. The cornice of the building with its gutter is at E: the front of the dormer is abutted laterally by the buttress F and behind by the pilasters G, against which are attached the carpentry sides. Little channels H collect the water from the roof, that runs along those sides to fall into the gutters (see side elevation D). On the paltes I set on the side walls (see rear elevation C) are fastened the timbers forming the rafters and receiving the internal ceiling so as not to cover the transom K, the ractangular sashes alone opening. Dormers of this kind existed on the palace at Paris, on the structures of the beginning of the 14 th century, on the castlesof Montargis, Sully, Coucy, and Pierrefonds (beginning of 15 th century), and many other palaces and castles. Those of the middle and end of the 1g th century are very common.

Note 1.p.186. From a house of Beauvais of the 13 th century, now destroyed.

In certain provinces of France, like Brittany, Picardy and Normandy, there was a custom during the 14 th and 15 th centuries, of giving to certain country buildings and buildings of castles a low height, crowning them by enormous roofs, for although these buildings were single in width, they sometimes

und a clear match up to 32.3 dad 25.0 fa.; now the reof teans draw as an entitlement triangle, it is undersided that the cides must rise made above the cornice. faces buildings in se section were then arranged in this manner (3)::-1, a cellar story A: 2, a ground story 3: 3, a second story C, half managed; edd and coldre end bas foor end to elchim end at C vacte a . 1 windows of the second story C alresty were dorners and only formed a part of oner. Te have a very beautaful exemple of This sort of constraction in the castle of Constitute in Fritteny. (4), whose construction intes from the last years of the 15 th captury. There the rides of the dorners is on a level mich the vides of tes roof: their fronts are decreated by scalptures. monofrems, devices and arms; toe openings are wife, frontspen with relicone and transport bare, and in ealths flanted by pings des. The baldshide is priest on the etc of a farier courage its raise through a faricyle centen the dorners. In the moper managed sporv the dobuct form a kind of sell lighted renerace. in anice one could remain we arek or to en ov the view of the CONTRACTOR VINITED ASSESSMENT ACTION OF THE BURNESS AND ASSESSMENT AND ASSESSMENT AND ASSESSMENT AS mars to the facadas of buildings and one constructors to five than increasing inportance: they sunstimes became the orinoraal part of the decoration, about the and of the ta preferring of the 1: th concacios, as one can saill sea on the osisce of justice of Power, where it seems at it the facelies are only made for darmers, since their composition states fron the ground of the court. In more nodest proportions beaut-LEATHER COMMENTS OF THE REAL PROPERTY AND ADDRESS OF THE PARTY AND ADDR

refor; on bouses of Tours, Rouries, Orleans and Caen on the oatly nall of Paurur, evo. The dorners of the castle of Joses-lyn, like those of the pelace of furtice of Rouen, are actual fables masking roofs pencirating the principal roof at rists are last the thrust of the carpentry, when this is without trecters at its pase, or at least they break this thrust on the eave mails at certain at least they break this chose on the eave mails at certain distances, and dive those waits starting the starting the starting the same at the certain

Corners of corpentry, small and molest i.ring the 18 to and 14 to consuries, "likerise essumeen much importance during the

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had a clear width up to 32.8 and 36.0 ft.: now the roof being drawn as an equilateral triangle, it is understood that the ridge must rise much above the cornice. Those buildings in se section were then arranged in this manner (3)::-1. a cellar story A; 2, a ground story B; 3, a second story C. half mansard: 4, a story D in the middle of the roof and the attic: thus the windows of the second story C already were dormers and only formed a part of them. We have a very beautiful example of this sort of construction in the castle of Josselyn in Brittany. (4), whose construction dates from the last years of the 15 th century. There the ridge of the dormers is on a level with the ridge of the roof; their fronts are decorated by sculptures, monograms, devices and arms; the openings are wide, furnished with mullions and transom bars, high gables flanked by pinnacles. The balustrade is palecd on the edge of & gutter casting its water through a gargoyle between the dormers. In the upper mansard story the dormers form a kind of well lighted recesses. in which one could remain to work or to enjoy the view of the country. The picturesque appearance given by these great dormers to the facades of buildings led the constructors to give them increasing importance; they sometimes became the principal part of the decoration, about the end of the 15 th and the beginning of the 16 th centuries, as one can still see on the palace of justice of Rouen, where it seems as if the facades are only made for dormers, since their composition starts from the ground of the court. In more modest proportions beautiful dormers of the beginning of the 16 th century are still seen at the mansion of Cluny at Paris, the city hall of Compiegne; on houses of Tours, Bourges, Orleans and Gaen; on the city hall of Saumur, etc. The dormers of the castle of Josselyn, like those of the palace of justice of Rouen, are actual gables masking roofs penetrating the principal roof at right angles. In this case they can serve to resist the thrust of the carpentry, when this is without tiebeams at its base, or at least they break this thrust on the eave walls at certain distances, and give those walls great stability by their weight.

Dormers of carpentry, small and modest during the 13 th and 14 th centuries, likewise assumeed much importance during the 15 th century; like dormers with stone fronts, they only appear in architecture of the middle ages at the moment when roofs

rease to be flat, and an least are ired at a slope of it is recess. Then they are set, not on the usve valls of these roofs, but on testr refrest to liep; the antics. They are always well concined as carpenery and are eraceful in form, orangery to what is proclased to as.

The oldest wooden dorners known to us, properly speaking.

restrant common rective element same; they are out in course woodwork and are covered by tiles, slates or lead. They existed a few the because roof of the cathedral of Chartres, that lated from the 13 th century. Were (5) is their construction; two heaviers A formed a rectrafular opening occupying the spaces neckness referen. On the referen 2 were but two triangles of the rectiving the front I on their ends, and shall ties with referen 2. Strong oak plants when called on those refters and on connected them with the front; ou these plants has placed the industrial which formed a collar on the front and at the sides, as inducated by the detail ". Then sheets of lead covered the

5.9 × 9.2 ios. and carefully out.

ners of very freat dimensions, monetimes divised in the openaness of a multion. The roofs of the sathenest at Autum have sticined some that date from the end of the 16 to century and are of quite beautiful form (1); the mond of those dormers always remains visible and is sheltered by a strongly projecting wild roof. These dormers were made to be closed below the linsel by shutter with alass and opening the inside; the date rema-

The courch of Wobre Came of Chalons-sur-Varne cas retained on the one of one sees a pretty dormer covered by leed with terminal and westbercook (7). One still sees on the steet rects of the cettastral of locams dormers, that date from the 15 th century, but which see not disfrienced by numerous respondings. These dormers are crossed by terminals like that of Woore Isas

ury, whose facades are not fables but eave salls, are surnounted by very beautiful dors, we note of W. Veriser and cattons of Arch. cav. et dors, we notice sore, notably those or the nospital of resure and that of a nouse at Licieux. An cease to be flat, and at least are drawn at a slope of 45° degrees. Then they are set, not on the eave walls of those roofs, but on their rafters to light the attics. They are always well combined as carpentry and are graceful in form, contrary to what is practised today.

The oldest wooden dormers known to us, properly speaking, are only large attic openings to give air and light in attics, but that cannot receive glazed sash; they are cut in coarse woodwork and are covered by tiles, slates or lead. They existed on the burned roof of the cathedral of Chartres, that dated from the 13 th century. Here (5) is their construction; two h headers A formed a rectangular opening occupying two spaces between rafters. On the rafters B were set two triangles D rereceiving the front E on their ends, and small ties with rafters F. Strong oak planks were nailed on those rafters and o connected them with the front; on these planks was placed the lead, which formed a collar on the front and at the sides, as indicated by the detail G. Other sheets of lead covered the front and sides, including their thickness. The timbers were 5.9 × 9.2 ins. and carefully out.

However, one sees appear in the 14 th century carpentry dormers of very great dimensions, sometimes divided in two openings by a mullion. The roofs of the cathedral at Autun have retained some that date from the end of the 14 th century and are of quite beautiful form (6); the wood of those dormers always remains visible and is sheltered by a strongly projecting tile roof. These dormers were made to be closed below the lintel by shutter with glass and opening inside; the gable remains open.

The church of Notre Bame of Shalons-sur-Marne has retained on the hip of the apse a pretty dormer covered by lead with terminal and weathercock (7). One still sees on the great reofs of the cathedral of Rheims dormers, that date from the 15 th century, but which are now disfigured by numerous restorations. These dormers are crowned by terminals like that of Notre Dame of Chalons. Some houses of half timber work of the 15 th century, whose facades are not gables but eave walls, are surmounted by very beautiful dormers. In the work of MM. Verdier and cattois on Arch. civ. et dom., we mention some, notably those of the hospital of Beaune and that of a house at Lisieux. The

The architects of the 15 to couldry have domestates alooted by an account of domests of careatery, an arrandoment of some some domests of fossely, i.e.,

unter the roof, so at in.

We gave (8) a dorsor erected on this sistem, and that comes from a nouse of fellerion. As A we oresalt the elevation and as A rae section. Here she wood is visible below the cand G. what is covered by states. The lead covers only the terminal and the rides. The roots and sides are also covered by states. States are also covered by states.

If one consider the old painted and entries views made of one castles and painces of tea middle area, one saes than the doctors filted on important class in them introduce, since the roofs contented and laterations of Pierrefonts, doctors of same or word and combined with the creations of the inner fallery, were destined to light halls classed behind those excepted cassess. These fronts then rest of the sallery, the light benefit those excepted the case of the fallery allegers of the sallery and the frent the dress mail.

It is certain tas the arcainsons of the movie sonk, contrasy to what is denerally preceived today, devoted minute care
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of view of solution, and seed construction, and of art. For
them to properly order an entities was the inducted nation, a
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The architects of the 15 th century have sometimes adopted for the construction of dormers of carpentry, an arrangement of stone dormers mentioned above at the castle of Josselyn, i.e., they were set on the top of the great wall and lighting a story under the roof, an attic.

We give (8) a dormer erected on this system, and that comes from a house of Gallardon. At A we present the elevation and at B the section. Here the wood is visible below the band C, that is covered by slates. The lead covers only the terminal and the ridge. The roofs and sides are also covered by slates. Glazed sashes close the openings.

If one consults the old painted and engraved views made of the castles and palaces of the middle ages, one sees that the dormers filled an important place in these habitations, since the roofs contained many lodgings. Sometimes as at the castle of Pierrefonds, dormers of stone or wood and combined with the crenelations of the inner gallery, were destined to light halls placed behind those external passages. Their fronts then rest on the wall of the gallery, the light penetrating their covering reaches the hall by an opening pierced in the great wall.

It is certain tha the architects of the middle ages, contrary to what is generally practised today, devoted minute care to the study of all parts of the roofs, both from the point of view of stability, and good construction, and of art. For them to properly crown an edifice was the important matter, a and they did not think that the part of the architect ceased at the top of the cornice. The composition of dormers must necessarily fix their attention, since these important parts of the roof are detached against the sky, and thus contribute to the monumental appearance of the edifices. Besides we must s state, that this tradition was maintained during the 16 th a and 17 th centuries; for many chateaus of the Renaissance from the time of Henry IV and of Louis XIII have retained dormers designed with care, often very richly decorated by sculptures and statues, occupying the greatest place in the arrangement of the facades.

LUNETTE. Circular Opening.

A round opening placed at the middle of a cross vault like a great boss, for the passage of pells.

exemplates out of the out ver

torses of apring openings and poetablish along the tens. We get ber of a more of outfall, which were to before the For by d oppine stores or burning materials. "courcinguages first brane of the middle asea and antil the 12 th cent my. (tra. Super). Fir tuese dellectes were freedomsty burned by and transported and they mere replaced about the end of the 19 sad de duo isidadeo eroda de sarralisa adient vo ventaso de sols of the mails and tomens, and pierced by holes close that Risingua stabilbasa end be bandenb shew asian became genna of the kinds, builting water, in older, esc. Te bave seen in and the Fourd, now abready as the distinct Condy, i.s., at ans taking up of the fare operary has projecting bears of the f sali unis were replaced by sides corosla. Tet affer thet enoug do seed end to cacitalocineou erera lerges entitles et the tions solitions, notably on one of the dependences of the onthe tost of fur-on-fordy, an admission than hanes ouch to the 12 to ventury. For a securified Little on a tan tan to the name of the builties will managelations, merits very oarsteeled actions for it is one of and man commercial militaery secure were the the consense in deanes, an important and successful defense placed over a deest hall mits pointed tugnel vally, i define that can contin 200 mon and comer when projection the sotion store of the carradral, betieve don't sed ane cook o' formerling This was like an advanced wo-The for the obsele, sties orowned that dock, seconial the assthe side or are sold bound at wolon is was acompactate, and end is ly desting one closier and the docamens. in the occesin, t.s., we sie 12 th century, the freet nell that long - fortit lamevoo sem entde laitvorg end do thin end at hividh iv on the sails by idelia sloves of tiles set in morter. In the 13 to certainy the saturanted or a defease, a anose bila me dave nece (1). This defense was resourt only by s asiron passage consudicioned with the door A. pelore the arress : orea macacolations O: orace machicolations a defend the face of the mell occurred there buttersee. There & are p oleges on the nettreases begind the machicolestions, and orner oress a boarte on one wall coment the cloisted past of steet the latter with the latter of MACTICOULIS. Machicalation.

Square or oblong openings made horizontally along the defensive gallery or a tower or curtain, allowing men to defeud the foot by dropping stones or burning materials. Hachicolations existed in the wooden galleries built on the ramparts en the first times of the middle ages and until the 13 th century. (Art. Hourd). But these galleries were frequently burned by the besiegers, and they were replaced about the end of the 13 th century by inside galleries of stone corbelled out at the tops of the walls and towers, and pierced by holes close together through which were dropped on the assailants materials of all kinds, boiling water, hot pitch, etc. We have seen in Art. Hourd, how already at the eastle of Coucy, i.e., at the beginning of the 13 th century the projecting beams of the g galleries were replaced by stone corbels. Yet after that epoch were established actual stone machicolations at the tops of some edifices, notably on one of the dependances of the cathedral of Puy-en-Velay, an addition that dates back to the 12 th century. That beautiful building, known in the country by the name of the building with machicolations, merits very particular attention, for it is one of the most remarkable military structures that we possessed in France, and important and substantial defense placed over a great hall with pointed tunnel vault, a defense that can contain 200 men and comer with projectiles the entire south side of the cathedral, between that and the rock of Corneille. That was like an advanced work for the castle, which crowned that rock, stopping the assailants at the sole point at which it was approachable, and absolutely masking the cloister and its dependances. At the origin, i.e., in the 12 th century, the great hall that long served as the hall of the provincial state was covered directly on the tunnel vault by double slopes of tiles set in mortar. In the 13 th century this hall was surmounted by a defense, w whose plan we give here (1). This defense was reached only by a narrow passage communicating with the door A. Before the buttresses B open machicolations C: other machicolations a defend the face of the wall between these buttresser. Piers E are p placed on the buttresses behind the machicolations, and other piers F built on the wall toward the cloister bear plates on which rest the trusses, that support the covering which shelters eridet are mine and the Spiriter and to mere brock one

ease and .sementic on are A as .semes end to item sever ace it indrant of the racticels long, whose backlement C age brend on accuse resting on the corbols. A organit o oroteous ins laterages from serous snow from openie. Tloss are planed in and sails of the orenalise and not in the merione, as indicot. tea bas plan and secence. By see acceneated as can prope e inferse vas erearsiv and econdact of van carosours. The erich cand fise of the osstiernors is -aven in "ice machinole --ilednos no ithrus serens of seems vertics on corbeit ed courses. Out takes the thresternia construction of the deat materialations behaved the ontergases, whose thin arones are successful by a dracesting arms that relieves one midrike succei. At each bastness tha rafters of the decompty project so de co suelter une small muchicologie. That suttre struckes is mans of fine one stone and lave, and is seems to outs the yearernay. The erternal effice is striking, Massa michiastations and tone of incer soirs expensity belong to bus southern provides, and they preceded by nearly a century the pacifical states of the Morte, which consist of a series of si-NAME OF TAXABLE PARTIES.

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ins asserblaities of the Arrat ratiof for are further not best only one of shat but found in Auverton. Instants of come are related by machinolastons, whose ships of come are transfer and a stantant of come are transfer and a function of and are transfer arithment works did not bettere transfer arithment of forms was one of the contitions is cosed by a oroselves ander a present of sacrificial all to unlike. Fechuse

usely every need and even so vigoroshe them, the actual most down of classe the event by the attentive and true spain of two least devails. Containly in works intended for the defense of a place or a post, and and intervened to soulprace or plant, as also the certains, as also to recommend the second and actual to the particular to the performance on the certain the second and actual to the second and the second to the

the entire area of the building. At the ends are gables.

The transverse section made on a b (2) indicates at A the g great hall of the state, at B are the buttresses. One sees the arrangement of the machicolations, whose battlements of are borne on arches resting on the corbels. A parapet p protects the defenders from arrows shot from outside. Slots are pierced in the walls of the crenelles and not in the merlons, as indicated in the plan and section. By the arrangement of the piers a defense was entirely independent of the carpentry. The external face of the battlements is given in Fig. 8. The machicolations are solidly built by means of arches turned on corbelled courses. One notes the interesting construction of the great machicolations between the buttresses, whose twin arches are surmounted by a discharging arch that relieves the middle corbel. At each buttress the rafters of the carpentry project so as to shelter the small machicolations. That entire structre is made of fine cut stone and lava, and it seems to date from yesterday. Its external effect is striking. These machicolations in the form of large holes especially belong to the southern provinces, and they preceded by nearly a century the machicolations of the North, which consist of a series of square holes arranged between corbels. We shall see at once. m machicolations in form of long holes in the defenses of the 14 th century, belonging to the cathedral of Beziers.

The machicolations of the great hall of Puv are further not the only ones of that kind found in Auvergne. The church of Royat near Glermont is crowned by machicolations, whose style of construction merit study. Then the architects charged with directing military works did not believe that ugliness and c vulgarity of forms was one of the conditions imposed by a programme under a pretext of sacrificing all to utility. Because art entered for something into their composition, these defenses lost nothing of their strength; flexible and ready to satisfy every need and even to vindicate them, the artist knew how to please the eyes by the attentive and true study of the least details. Certainly in works intended for the defense of a place or a post, whe art intervened to sculpture or paint. as with the Chinese, hideous monsters on the battlements. designed to terrorize the assailants, one can smile at its inspirations; but when on the contrary, art submits to all requrequirements of the persons is made and to five \$6 or lower form of the product of the persons o

les of sie various cares of the architecture of the middle a sles, that we fave in this work show well, that each of those cares exacely fulfills a function, and that one cannot confound a detail of a civil or re-

are to itself, such detail accords with the part of the profrance take respectively to it and the socreture terms tends to it it to a a sertain form desaided by a defactive and imperional desail, the more the architice dives so then from an account of countries. We shall note the proof of this case more, if the is a follow as an our stary of mechanism.

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requirements of the defense, it knows how to give to the least details a beautiful form clearly indicating their purpose; w when it seeks nothing but the most reasonable and solid construction, one can admit that it is well to allow it to take its place. Now it is given to art alone to express by suitable forms all needs, even the most ordinary, and we shall see no inconvenience because in our modern defenses the external appearance corresponds to the reality. 1 To crown a gate today, a barrack or defensive work, by machicolations would be ridiculous: but it is entirely otherwise at least, to give these military works the appearance of a mansion, to surround them by Roman pilasters, to terminate them by cornices profiled a according to the rules of Vignola, and to enclose their openings by architraves borrowed from treatises on architecture f filled with the ideas of dealers in engravings. All the examples of the various parts of the architecture of the middle a ages, that we give in this work show well, that each of those parts exactly fulfils affunction, and that one cannot confound a detail of a military edifice with a detail of a civil or religious structure. Each monument retains an appearance peculiar to itself. each detail accords with the part of the programme that required it, and the more the programme tends to i impose a certain form demanded by a definite and imperious need. the more the architecture gives to that form an accented character. We shall have the proof of this once more, if one is willing to follow us in our study of machicolations.

Note 1.p.200. How is it with our casemate barracks, that have the appearance of houses of pasteboadr? Such as they are, we admit that they resist perfectly the effect of bombs; but to see on the exterior their lean construction, one would not credit them with the robust aualities that they possess.

Let us see (4) the arrangement of the machicolations crowning the church of Royat. At A are seen the machicolations in section; they are presented in elevation at B. This construction belongs to the first half of the 13 th century; it consists of a series of arches borne on corbels. Between the buttresses of the edifice are counted four arches. The architect understood that the angles and still more the the fronts needed to be protected by machicolations, and has adopted an arrangement of corbels C that allow the merions to follow their planes,

end show leaves at each and a line strate macropolation Industrial of and economic is eccessed in Fig. 6, the profile do A son stayara an 3. Too oses nee heath of the apter adusor mers, for those denoeis are surved in the noullest money. ? at if as sopresed the providers of bas Morto, the magnifolastone supresely ancese until ins and of the 18 be century. The with the alconomication about a the owle for brow attribute of sure Correction and and the recent care and the there are the teld the everem of difference declines. Not exacts, the defthe edt callat yo become soun outen , amenanchan to averabout 1975, nonrece present traceus of meoniculations, autoritions they strony tribled in the provinces of the Centre and Rould. the branch area a describer of the state of befearly; speeds nine; but alsocianue was then sarepanded by vess former, and the respects were outly by arentacits from • 10 10 with

Arons too same eroom in Surfands, amove limestone is shadsud, Seroby at act actions actions acoust. They -of to size o end to devot end to find and object that the To the setting and a confermations are not communers, but for em : seet of orciosand vacou threat of each troot of each to tales, Ands blom is a share secretained by barse out-off andand jon bar areas and rables aut anciationing temp .emi saffes. To present of 4 (5) the class at 3 une insecual, and a H as so a go moidema and I do teadquevola inche xe use face we size a evaluation on o d, and as ? The section of a le Trope magning in in the covered and present receiptly to a movemenweds of a conjecting meelon bords on corrols, proceed by a make to all door of a parentalle les estes sai from of base latesia provacouna con the conservation three alone fine toick: -splantered as the court of the least of the court of the ion is nother as the desert of the salls of the desiles, so deal of was anomated to lift but of content as a residential Wo drin or the varylands. As for the merions placed oppness Second ablancia to becker are orbits of piones and are "V ELOTE IN BLE LOT FOOTE and fitted with iron books, as m West as the stres of one machinology, uncomed for hanging and standard. A perdocoming in Tra. 7 will illustrate bug ic efin ii openedance air Passanath de serete consecute in mits it ind minerias, but date as not changed. The diapoles sing

and that leaves to each angle a large square machicolation. The detail of the corbels is traced in Fig. 5, the profile at A and elevation at C. One sees the taste of the artist appear here, for those corbels are curved in the happiest manner. B but if we approach the provinces of the North, the machicolations scarcely appear until the end of the 13 th century. The ease in obtaining wood and also the strong projections of the fortifications of those provinces permitted them long to retain the system of defensive galleries. For example, the defenses of Caracssonne, which were erected by Philip the Bold about 1285, nowhere present traces of machicolations, although they already existed in the provinces of the Centre and South. and these defenses were established with a great luxury in d defensive precautions; but parcassonne was then surrounded by vast forests, and its ramparts were built by architects from the North.

About the same epoch in Burgundy, where limestone is abundant, beautiful and solid, we see machicolations appear. They already exist on the summit of the tower of the castle of Mo-Montbard: but these machicolations are not continuous, but form a sort of projecting watch turret on each front of that t tower, whose plan is a square terminated by three cut-off angles. These machicolations thus defend the fronts and not the angles. We present at A (6) the plan, at B the internal, and at C the external elevations, at D the section on a b; at E t the side elevation on c d, and at F the section on m n. Those machicolations are covered and present externally the appearance of a projecting merlon borne on corbels, pierced by a hole in the form of a quatrefoil. The sides and front of this little projecting bay are constructed of three slabs 8 ins. thick: the coping is made of two stones. The hole in the machicolation is nearly at the height of the sills of the crenelles. so that it was necessary to lift the projectiles, that one desired to drop on the assailants. As for the merlons placed between these machicolations, they are crowned by pinnacles, pierced by slots in the long fronts and fitted with iron hooks, as w well as the sides of the machicolations, intended for hanging wooden shutters. A perspective in Fig. 7 will illustrate the whole of that system of defense. This construction is made of fine materials, that time has not changed. The pinnacles alone

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It is clear that the assellants placed at 0 as tend of tes tower (see has nien. Fis. 6) could soescely be saruck by ocojecerlas falling from trees amonicolations; but it must be stated three bors nower is built on a presisted of rock, and ist one besidend continued on the rebounded. Yet man did not interest to the continue of the c relay to seek a settor of continuous macroclaticas, that soald defend the entire erash of the remosts, and these were As duale base arranged with a view of one selecte bandioed by one full of the profesures, as cale and already been autemoand for the defensive Adilornes. (Arc. Hourd). To now also desired for the machicolations to sarrie the projection and las. -idael to day out conference was precessed and the and he althus and accept and and and are 14 to centary. Frere ero seen sechicolations of that apocavery well essetlianed on the samme of the same of the case to of Senacaire. The plan of that towar, or rather of that THE RESIDENCE AND ADDRESS OF A REPORT OF THE PARTY OF THE

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An employees address to the contract of the co rock and is solid, still it is oroward by the cor of among olactions sorroughing the work. In clan (?) the corbits of these f of lellarsy send cut and of water ise are ancitalogical the opint as indicated by the stratog A. The angle toon dominassa oy a cremelle perpendicular to the exta and by two tric andalar coles in the meenicolations; it is defended. We present the oerstative view of it at s. The profile C is made on the axis of an arch of the anantolessin. One will cone ane conjection d arrared becease was coreale, and major is and selections of the falles falled to one of bakenall on researched on the rough surface, that would appe tham to geil leistev and non that he end fectors v and men attente -seror president ses to come and a set action or control tracors, and it siveys struck the batter, the caused these erojacilas to asserine a certail carebala because of their weight and the neight of the sall. If the savellant come to shay at the foot of the randars, he could essely protect nincolf from projectives falling vertically by means of a saneld even beably asy it jud , not not be the not vot seeven have been thrown down; we could only restore them from frag-

It is clear that the assailants placed at 0 at the base of the tower (see the plan, Fig. 6) could scarcely be struck by projectiles falling from these amchicolations; but it must be stated that this tower is built on a precipice of rock, and that the besieged counted on the rebounding. Yet men did not delay to seek a system of continuous machicolations, that could defend the entire extent of the ramparts, and these were at their base arranged with a view of the effects produced by the fall of the projectiles, as that had already been attempted for the defensive galleries. (Art. Hourd). It was also desired for the machicolations to strike the projecting angles. gut those improvements were introduced into the art of fortification of places and castles only about the middle of the 14 th century. There are seen machicolations of that epoch w very well established on the summit of the tower of the castle of Reaucaire. The plan of that tower, or rather of that keep, gives this Fig. (8), presenting a projecting angle A t toward the exterior of the fortress.

Although this angle dominates the considerable precipice of rock and is solid, still it is crowned by the row of machicalations surrounding the work. In plan (9) the corbels of these machicolations are set askew to form two lines parallel to t the point as indicated by the sketch A. The angle then dominated by a crenelle perpendicular to its axis and by two triangular holes in the machicolations; it is defended. We present the perspective view of it at B. The profile C is made on the axis of an arch of the machicolation. One will note the projection d arranged beneath the corbels, and which is intended to prevent projectiles falling through the holes from rebounding on the rough surface, that would cause them to deviate from the vertical line of fall; now the vertical line of drop was calculated with great care by the military constructors, and it always struck the batter, that caused these projectiles to describe a certain parabola because of theiriweight and the height of the wall. If the assailant came to stay at the foot of the rampart, he could easily protect himself from projectiles falling vertically by means of a shield covered by iron and padded with tow, but it was indeed more

-ong le dosfine ena unabha e<sup>m</sup> . Encentrose baldetena adoar beund pacalles fellene car ach the a demostacions, and beareded took There so issues there. In long speese and wood second agent lackine, they orthoped borough the machisol-tions addiever came to asad, blocks of moot, viles, bouldar's and rabels. But if ang steed fore well province, orginalis saturate for detense of the macribolations were and so above stones, success results dismerse; only toes could want effect of easured. I ings at one resides we work out decisions, it is at the govel end to acquentions and avolute to vilensors esta some oster of end wells, for best slope to heremain by the Desand of ends and, of the profession of the meenicalantons, and by the acod tor southing a certa a point of the carea, of ten some or the tot for the formation of the if the and the secole bus apolicion ens as audaso no al envio econores ace officer is before to eronus a nertain effice incosed by sdi le mericas sud se A ve (Ot) ser . santhee out le shoon ses Beautiful Addition to the control of the control of

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Assuming tous or white 3 are sufficiently aids to not some sufficiently and an angle some solites, the solites and sufficient solites and

difficult to provide against stones coming obliquely; besides, those shots prevented approaches. To ensure the effect of projectiles falling through the machicolations, the besieged took care to dress them. In long sieges and when stones were lacking, they dropped through the machicolations whatever came to hand, blocks of wood, tiles, boulders and rubble. But if the place were well provided, projectiles suitable for defense by the machicolations were made of heavy stones, spheres of regular diameter; only then could their effect be ensured. 1 Thus if one desires to study the machicolations, it is at the same time necessary to observe the inclination of the lower batter of the walls, for that slope is determined by the height of that wall, by the projection of the machicolations, and by the need for striking a certain point of the ditch, of the scarp or terrace. In the fortifications of the 14 th and the beginning of the 15 th centuries, the machicolations and slopes are combined together to produle a certain effect imposed by the needs of the defense. Let (10) at A be the section of the rampart with machicolations, the rampart being little elevated above the bottom of the ditch G; it is then necessary to prevent the assailant from approaching sufficiently to be able to place ladders, the slope forming a great angle with the vertical wall, and then the projectiles will be sent far from the point H (foot of the batter) and will roll to the bottom of the ditch in rebounding. The heavier the projectile, the more the parabola I K will approach the straight line and diverge from the point H. If the enemy reaches the point H, projectiles of moderate weight can strike him. If he fills part of the d ditch and reaches the point L. he will receive the projectile obliquely with all its force.

Note 1.p.208. It is not to be doubted that projectiles intended for machicolations were cut in advance and were spherical. We have found an enormous quantity of those stane balls in structures preceding the use of artillery, and what is still better proof, one frequently sees some, that have remained stuck in the holes of machicolations too narrow to allow them to pass.

Assuming that the ramparts B are sufficiently high to not fear scaling, the batter will form with the vertical an angle more obtase, and the projectile will fall obliquely near the

fore of and alone, Assaring aird that are prevert is limite cherased whore are countrieseer of the disco, bor tour take of read (1), the butter will be so arranged bank les profession mily sayed to for the entire metric at a libble distance. If the recent is sailt on a presidence of rock (3), the batter sect est to list line effications and that on benefit on ill: of the book, in order to arive any the miners. That fill ondes in he be understood, the importance of neving annationl -are end to seef our ballmatch not select anough to selections carts by meins of macricolations, according to the unture of gig aprace, and now the saching of the oather smould on tracein soccating to the nature of the plane. Not if we keen notes to that of least of sadiacate onlockste atta processing to saying of oladinos and hen sicilois of namentus to nothing cartain effeecs, we can be assured then in the it th century the militaor agrangence levosed to less care and coloristion to crawing agent receiptacens, has copieds of tents orthlements and all

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is is necessary to sower of there of the demonsts of Arisos, erected about the mindle of the 14 th century, and musch ore-sent certein oscalisticies worthy of algoritor, and musch orangle, the species contacted as some remains on towers, the audie concle, orangers of audiences, etc. The meanishing of the remains of the developments of authorizing never been interfalled to be covered, and term surrounded by simple batiles-ins, to avoid everying the considerations of some five as the cornels a sufficiently drest name of concess to load the tills of each course. Thus (11) is a

AND RESIDENCE AND ADDRESS OF REAL PROPERTY AND ADDRESS OF THE PARTY AND

foot of the slope. Assuming again that the rampart is little elevated above the counterscarp of the ditch, but that this is deep (C). the batter will be so arranged that the projectile will sweep it for its entire height at a little distance. If the rampart is built on a precipice of rock (D), the batter will be traced so that the projectile will fall at the foot of the rock, in order to drive away the miners. That will cause it to be understood, the importance of having spherical projectiles of known weight for defending the foot of the ranparts by means of machicolations, according to the nature of the attack, and how the section of the batter should be traced according to the nature of the place. Now if we know today the that officers of engineers calculate with precision the angles of bastions and the sections of ramparts to obtain certain effects, we can be assured that in the 14 th century the military architects devoted no less care and calculation in drawing their machicolations, the copings of their battlements and all details of these constructions, happy proportions, and profiles of a beautiful character.

Still we have seen in Art. Hourd, that the wooden inner galleries with machicolations were covered. It was indeed necessary to shelter the defenders placed in these inner galleries,
benind the battlements, from projectiles cast indirectly by
the assailants; men then undertook to cover also the machicolations with stone, as they had covered the outer galleries
by roofs of carpentrw, but those permanently. The most remarkable machicolations of that kind, that exist in France are c
certainly those of the castle of Pierrefonds; they date from
1400. We shall return to them immediately.

Before occupying ourselves with this sort of machicolations, it is necessary to speak of those of the ramparts of Avignon, erected about the middle of the 14 th century, and which present certain peculiarities worthy of attention, for example, the square returns on towers, the angle corbels, projecting machicolations, etc. The machicolations of the ramparts of Avignon having never been intended to be covered, and being surrounded by simple battlements, to avoid overthrow the constructors have given so the corbels a sufficiently great number of courses to load the tails of each corbel. Thus (11) let A be the corner of a tower, then will be a diagonal corbel at B,

a G officer one over little o occorde see on heritaces actual with C circled courtes; the two corosis ? will be slightly ina O alacto sed , F O her C 8 sonore laura mistoc or makes Faill have only 5 courses (see profile & made on e f). In a elevation that angle will present use drawing formuna evoluthe way for addle sorbel 8 beard loader then the others, thene enorage course at button. The armes of the macricolations a ai à 14 .leonoo isnuasib Janu esanteuso renno and ininicità capresented in perspective the course f', at n the course n': ne i tue course i', at l the course l'. These stones alth tathe loader by the mass O (see sections D and W), cannot the under the menent of the brederedes, the Planking waten tureess of the tested being brend true to and our ic set at fallery is second and the manufactors rise as infinite el la via. Ut eson sten a us piercen by ins menicolation. (sia occille 2 mane on the line r o). One some at the onlyce To seem yo benished apoint longes posting its sence ear in areat anones results on the puttreeses. Trans machinolations protuce long spaces incourt nates one can drop not only stones out simbers flatance (see Art. Promisecture Militaire, Fid. 40); they and the isconventence of not striking the franks of

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is of the provinces of the Torth; they adopted by proference
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"e nave just stated, that the michicalitions are not well brosected united the case of the case of the sallenes. The us examine the manifold; none of the castle of Fierwallads, iness form a countilities at the bous of the transmission and only covered, out also surgonaried by bilitessed, that countilities after comment the acocoaches after (12) now were arranged those wachioolations. At A me arve two two clau of a portion of the catter fallery of the bowers which at the level as Tae holes of the eachicalstions are drawn at b.

which according to the section c d will give the profile D w with C corbelled courses: the two corbels C will be slightly askew to obtain equal arches B C and C F, the corbels C and F will have only 5 courses (see profile E made on e f). In e elevation that angle will present the drawing G, which explains why the angle corbel B being longer than the others, takes another course at bottom. The arches of the machicolations a adjoining the corner penetrate that diagonal corbel. At g is represented in perspective the course g', at h the course h'; at i the course i', at 1 the course 1'. These stones with tails loaded by the mass 0 (see sections D and E), cannot tip under the weight of the battlements. The flanking watch turrets of the towers being higher than the curtains, the internal gallery is stepped and the machicolations rise as indicated in Fig. L; each step mais pierced by its machicolation. (See profile P made on the line r h). One sees at the palace of the Popes at Avignon machicolations obtained by means of great arches resting on the buttresses. These machicolations produce long spaces through which one can drop not only stones but timbers flatwise (see Art. Architecture Militaire. Fig. 40): they had the inconvenience of not striking the fronts of those buttresses, thus leaving points accesseble to the assailants. This system was scarcely employed by military architetts of the provinces of the North: they adopted by preference the system of continuous machicolations. Indeed it is necessary always to seek in the works of northern architects the m most serious defenses; many fortifications of the South of F France and of Italy seem to be made rather to strike the eyes. than to oppose a formidable obstacle to the assailants, and in those countries the machicolations are frequently a decoration or crowning and not an efficient defense.

We have just stated, that the machicolations are not well protected unless they are covered like the outer galleries. Then let us examine the machicolations of the castle of Pierrefonds. These form a continuous series at the tops of the t towers and curtains, they were not only covered, but also surmounted by buttresses, that command the approaches afar. See (12) how were arranged those machicolations. At A we give the plan of a portion of the outer gallery of the towers taken at the level a. The holes of the machicolations are drawn at b.

As R is dearn to a sections of the antice defense and as 3 is its essential elevanter. The sellary D mish to antended by the medical for the sellar distincts the document of the value of the sellaries opposite the ciamons R are classed on the walls of the sellaries opposite the ciamons R are the access that I was the the halls I. At X are the access captions.

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point of the city and attached to the fortifications, and was seeded to the it had been contabed when because of the city and the contabed when because (Art. Treness). At the rebuilting of the

At B is drawn the sections of the entire defense and at C is its external elevation. The gallery D with its machicolations is covered by the shed roof g. At regular distances the dorners E are placed on the walls of the galleries opposite the windows F and light the halls I. At K are the upper battlements. The tails of the courses of the corbels I extend deeply into the masonry, and are loaded by the great wall to prevent overturning. The lintels M are cut radially between the corbels as indicated by the elevation, the imposts O are then cut according to the perspective sketch O': thus no chance of rusture exists in the construction. A recession of the face between the corbels at P leaves a projecting angle, that prevents arrows shot from below from rebounding and ascending into the gallery through holes of the machicolations. At the base of the towers and curtains, a pronounced batter causes the projectiles dropped through the holes to rebound, as indicated by Fig. 10. This was a serious defense, combined in a manner entirely remarkable, when the armies did not yet possess artillery, and when the galleries were sufficiently elevated above the ground, that their walls and roofs had nothing to fear from casting machines, like mangonels, stone-throwers and trebuchets. Without modifying in any manner this system, about the middle of the 15 th century men desired to give to the m machicolations a less severe external appearance; they were sometimes ornamented. For example, such are the machicolations placed over the gate of the beautiful castle of king Rene at Tarascon (13). At the end of the 15 th century the progress of artillery caused the rejection of this mode of defense, yet there were still represented machicolations on the summits of the towers and castles, at least by tradition.

Sometimes machicolations were established on the crossings of churches, when it was judged that they might be invested; thus on the apse of the cathedral of Beziers between the buttresses, and to defend the windows from scaling, there were constructed about the beginning of the 14 th century machical ations terminated by a parapet with open crenelles in the form of a balustrade. This monument was placed on the highest point of the city and attached to the fortifications, and was regarded as the citadel, and for all time it had been equipped with battlements. (Art. Creneau). At the rebuilding of that

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ate sonin a lass trace of those medicolations, so common in the manifetions of lords of has 14 to and 15 to centuries. To close, lessua say that the onies of methodishance of the fore such that the fore soles of methodishance of the fore soles in the fore soles that the fore soles inventions that the fore soles invented to page and only the soles and the fore soles and the fore the forest that the forest soles and the forest that the forest soles and the forest that the for

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Note 1.p. 214. For monstone, see the ond of art. Noteons de

The askingurous of the Palko Romans could not be monified a same street to and fine ospanions

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church after the wars of the Albigenses, they merely conformed to a tradition. Here (14) is an external view of one of the machicolations of the chevet, at A is traced the section of the defense. Let us add that the windows are fitted with very close grilles, that present an obstacle sufficient to stop assailants vertically under the holes of the machicolations. Open cornices with great corbels, on projecting corbels are again a last trace of those machicolations, so common in the habitations of lords of the 14 th and 15 th centuries. To close, let us say that the holes of machicolations of the fortifications in the North of France have dimensions evidently according to regulations, they form squares that vary from 13.0 to 15.7 ins. side; thus the projectiles intended to pass through these holes could be taken to any strong place; which was an important point.

MACONNERIE. Masonry.

All construction into which enters stone, rubble, brick, m mortar or plaster. (Art. Construction).

MAIN-COURANTE. Hand-Rail.
Rail of a flight of stairs. (Art. Escalier).

MATSON. House. Dwelling.

It is necessary to distinguish city houses from country houses, but the latter should not be confused with manors. The true country house is that of the cultivator, the peasant, a family attached to the feudal lands. As for the city houses, those of the lords have a particular character. We class these as palaces or mansions. It is true that up to the 12 th century the nobility rarely dwelt in the cities, and the customs of the conquerors of Gaul were long retained by their descendants.

Note 1.p.214. For mansions, see the and of Art. Noisons de Villes.

The habitations of the Gallo Romans could not be modified i immediately after the invasions of the 5 th and 6 th centuries. The new possessors of the territory apparently did not think of causing the erection of houses of a new form, they occupied the Roman villas; for living in the fields by preference rather

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than in the cities, if they caused the erection of habitations by their cultivators or serfs, these houses necessarily retained the form consecrated by long custom.

In the art of architecture, the house is certainly what best characterizes the customs, tastes and the usages of aspeople; its arrangements and its plan is modified only after a long time, and however powerful the conquerors, their tyranny never went so far as to attempt to change the form of the habitations of the conquered people; on the contrary, it occurred \$ that the invaders yielded in what concerned the habitations to the customs of the vanquished, particularly if the latter were more civilized. Still the newcomers gradually introduced into those customs modifications, that belonged to their character and traditions, they established a compromise between the two principles of existence, and after a century or two had passed, the habitation left by the first possessor of the soil was slowly transformed. However it is unnecessary to believe, that those transformations were such, as not to leave remaining very apparent traces of the habits and consequently of the primitive structure. From the first centuries of the middle ages, i.e., during the Carlovingian epoch, the country dwelling of the French took a character of defense for the c city house, occupying a narrower area because of necessity a and enclosing those cities by walls, these must necessarily abandon in many cases the extended arrangement of the ground story to superpose stories in order to find in height the space lacking in area. If the Romans did not employ wood in profasion, when they constructed houses for themselves, it is c certain that the people of Gaul never ceased to use that material: perhaps during the Roman rule they gave greater importance to masonry structures; but under the influence of invasions from the North, they certainly renewed construction in wood without difficulty. Indeed the art of carpentry, the exclusive use of wood construction only belongs to the Indo-Germanic races. Wood enriched by paintings plays an important p part in the construction of the Berovingian epoch, and the f frequent conflagrations, that destroyed entire cities during the first centuries of the middle ages sufficiently proved t the almost exclusive use or carpentry in private structures.

Of these habitations preceding the 11 th century, there re-

ressing appeing boday; area one can only fore an idea of same in soliscence incrnic shabeasans dived by the architer, vientle-Les of menasoriers, very imperfect, and some reliefs. for bonavec value saese ancomeans, they are less conclusive on one manti une soine, so know east the boases of the figure thank es accente seeds seed tear to stan seek 20's effice and to enso greens to seito one grineoutry and other of cimpers onesecret as any angles; and take point market our safers of secsion. Tes as explosion, there are end modes of constructing in perior take no siro maddie med sho thock entro's at Victisticae and the renderion ment indicated by account them not be the set and and see one one one up more or less indearons continueions, synolines acted the subject support, so ettimes so a cheries so releva, and sometimes as a sincle filline, obvert traver frames of crarene scentity, very light and allowing the areamon of saracoures of dream neighbo. The first of brace methods for negative on the part of degative cale fewellon at eas an intelligent to seed a followed also and sar of gine absolut tooses suf tiles, selecte syste secon re water groups or is necessaried at the original sacra ell. THE PARTY OF STREET STREET, ST

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remains nothing today: them one can only form an idea of them by collecting laconic statements given by the writers, vignettes of manuscripts, very imperfect, and some reliefs. But however vague these documents, they are less conclusive on one important point, to know that the houses of the first times of the middle ages were made of wood, that those structures of wood were a mixture of carpentry and piles of timbers connected at the angles: and this point merits our entire attention. Let us explain. There are two modes of constructing in exclusively employing wood; one can either pile on each other the squared trunks of trees by notching them together at the square angles, or one can by more or less ingenious combinations, sometimes using the wood as a rigid support, sometimes as a tie, sometimes to relieve, and sometimes as a simple filling, obtain timber frames of extreme stability, very light and allowing the erection of structures of great heights. The first of these methods does not require on the part of constructors great efforts of intelligence; we see it followed also among slave peoples, while the second belongs only to the pure white races; we see it practised at the origin among all the peoples descended from the northern plateaus of India, among scandinavians, Franks and Normans. The data that one can collect on the habitations of the Merovingian and carlovingian epochs allow us to see some traces of the method of construction in wood by piles, and sufficiently developed wooden construction in the assembled carpentry of the Gallo-Roman traditions.

At the epoch when we can commence to collect fragments of prench habitations, i.e., at the end of the 11 th century, we prove still the influence of those various influences, on the one hand belonging to the Latin civilization, on the other to the Indo-Germanic traditions more or less pure. In the art of construction of houses in France in the middle ages were produced singular oscillations, that depend on the predominance of the Gaulish or the Germanic character ower the remains of the Latin civilization, or of this over local traditions, and over the tastes of the invaders from beyond the Rhine.

Thus in the 12 th century during the greatest development of the Cluniac and distercian monastic institution, in the c cities in which the influence of our abbeys dominates, the

other an main the laffuence of our sideys domantes, the haddens is constructed of mesony, the Roman tradition resists one influence of the Moran, mails in the cities note independent or more directly claced under the royal power, the socian above daily tends to replace the stone name. The frenth or leaser abundance of one of these was materials, the proximity of word or seems to the occites of coordination, our not not not also decisive influence area the system of construction stories.

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cities in which the influence of our abbeys dominates, the h house is constructed of masonry, the Roman tradition resists the influence of the North, while in the cities more independent or more directly placed under the royal power, the wooden house daily tends to replace the stone house. The greater or lesser abundance of one of these two materials, the proximity of wood or stone to the centres of population, did not have a decisivi influence upon the system of construction adopted.

In order not to exceed the limits of this work, we must restrict ourselves to mentioning this fact, whose explanations we shall endeavor to give elsewhere.

MAISONS DES VILLES. Gity Houses.

The scarcity of ground in cities or walled market towns compelled constructors to build several stories above the ground story. If at Rome in antiquity the houses possessed a great number of supeeposed stories, it does not appear that this me thod was followed in the provincial cities. At Pompeii the h houses have only a ground story with very few exceptions; the antique paintings rarely indicate habitations composed of several stories. On the contrary from the Merovingian epoch urban houses possess one or more stories above the ground story: authors often mention their stories, and the sculptured or painted representations rather show us the form of towers or of elevated pavilions, rather than of adjacent houses. Gregory of Tours mentions houses of several stories: he says that "Priscus had ordered at the beginning of his episcopate. that the buildings of the episcobal house should be made higher." 1 Duke Beppolen being at table in the house of three stories. suddenly the floor fell." 2

Note 1.p.218. Hist. de France. Book IV. Chap. 38. Note 2.p.218. The same. Book VIII. Chap. 42.

The Nerovingian houses, numerous traces of which remain in the North of France, usually consist of a cellar of masonry not vaulted, surrounded by wooden structures, their perimeter is small and the lodgings must necessarily be superposed. According to that programme appear to have been constructed the houses, copies of which we give here. (1, 2). Fig. 1 evidently indicates a wooden structure; but it must be stated that it is found on a capital of the primitive church of Vezelay preceding the establishment of the commune; while in the same

location are will seen taxona in the same are tailest! whe beginging of the 12 to century. Innest had. Thierry in aus Leaters der finisties de France. In proponeund toe pou-\*Isseed theory of aurilia columns to vector to vector the ves by except signs of boom setunctioners. "They built a spound toward houses confileranced malis, each according to his Assive. One of the more incorporate them, named Stron, la lara the found-vious of a dreak southe tower." Fiz. 2 presents a neoglistity that should not be omisted, an exceptil atatest tables as ass the court seed attack or office that of steps of a recorded to the traditions of the it ha sed if th censuries. The tapestry of Bayear sacra us Parold and his compenions become in a nouse at the time of the oassage in Vorearty. The papease and is admissed in the sone ond shory over a smeak asony former, of angles! the filtable of inn and to wrose out or like asout the must thereach doors she should short is evidently built of essorty wails and .vione enory appears to be all decomposer.

Note 1.p.217. This is reproduced a house corned on a copital of the church of vereloy, areaeling the rebuilding of the beaginging of the 12 th century. When a fine a house copied from a copital of the alerent of Noisena (12 th century).

One aspin fields one preserved of exceends seeins in Grack manuscripts of the P to century ('r.. Perron), and re see it deep of the see if the ordered field of the minute see and the first the first period of the minute see and that it were it is seen the neriod of the minute see and militiate field the first see and contained of the first see and see and the first see and see the first see and the first see and the first see and the first see the first see and the fi

locality are still seen numerous fragments of stone houses from the beginning of the 12 th century. Indeed Aug. Thierry in his Lettres sur f'histoire de France, 2 in recounting the phases of the establishment of the commune of Vezelav. mentions that tendency of the emancipated citizens to surround themselves by external signs of their enfranchisement. "They built a around their houses battlemented walls, each according to his wealth. One of the most important among them, named Simon, la laid the foundations of a great square tower." Fig. 2 presents a peculiarity that should not be omitted, an external stairs: indeed we see that these external stairs or great flights of steps play an important part in the habitations of the 11 th and 12 th centuries. The tapestry of Bayeux shows us Harold and his companions banqueting in a house at the time of their passage in Normandy. The banquet hall is situated in the second story over a great story formed of arches! the flight of steps descends from that upper hall to the shore of the sea. that ground story is evidently built of masonry, while the second story appears to be of carpentry.

Note 1.p.217. Fig. 1 reproduces a house carved on a capital of the church of Vezelay, preceding the rebuilding at the beginning of the 12 th century. Fig. 2 gives a house capital of the cloister of Noissac (12 th century).

Note 2.p.217. Letter 22.

One again finds that arrangement of external stairs in Greek manuscripts of the 8 th century (Art. Perron). and we see it perpetuated till the 16 th century. Note this important fact; that in France during the first period of the middle ages and until the 12 th century, it seems that in private habitations have been maintained the traditions of Gallo-Roman antiquity for the ground story, and that for the upper stories have been adopted the customs introduced by the people that came from the North. Indeed it might be after the invasion, that the new conquerors retained a good number of those Gallo-Roman city or country habitations, and that on the ground stories composing them, they had caused to be erected in carpentry halls a and services that they needed. Thus since then had been adopted assystem of construction resulting from the two methods. grafted one on the other by the habits of the two civilizations, or rather of two different races. In masonry the Gallo=

con neclulars asked itself felt very laws, while her sandone of wood from the order, and translated as and onlower, in extremely
the act of warperery of the Powers. These esperces and of the
systems of construction sorings from two opposed cavilizations,
and only with erest difficulty succeeded in formiss a counterse entirety, and until one end of the 12 to century, one resse entires that the mixture is not effected.

is combination, beticae it estimate foundational braditions, and only as that there are private structures assume a observant to the networks used in the norm. It suffices to look at the seasons meanseries of the 2 to, 10 to as it of the centuries, at some ivory carvinds of mat epoch, and synames as the the tepoch, and synames the centures of ferio-feren construction in the nestry of the ferio-dements of the habitations, and that the form of the the the the century of the the the structures of the approx of the ferio-ference where the structures of the approx of the ferio of the ferior cents of palaces and houses, while the constructor is the basin basile as of the five approx of the ferm of the basin basile.

Avidably if the lords and chained the applie to arrange the erchitocorpe of their monarianted at their blocksre (and this was Latin by tradition). they exected an inflormce on constructions coursed with precing their nanteatrons. a and in some of the acticately entactual behavior the capta of the connuctors from beyond the Saint and the old Faits than ned become tatios, it seemed that at the contact of the oursst races, the Gallo-town recalled its origin and aredually paged the native tastes, resolve seames the Roman ares so long continued, and in its minusaious are pleaned to comouse on art of its own. Thus airealy in the 12 to century, T -od some fiser and belosser seinon energials and to search and thread of the moner teries; it is a different and tre exactli mannois of construction; civil arenitecture is formed with the establishment of the communes, it assumes its indocenter onsem jase tike the feutel castie, watca on its part office momuce and more from the Roman villa, to the traditions of wrich the about alone rames faithful. It is alwars interesting to sea has agains propled left to their ove the cons the sting Roman influence makes itself felt very late, while the structure of wood from the origin had a character, that evidently belongs to the races from the north, and that nowise recalls the art of carpentry of the Romans. That superposition of two systems of construction springs from two opposed civilizations, and only with great difficulty succeeded in forming a complete entirety, and until the end of the 12 th century, one recognizes that the mixture is not effected.

The lay school of the 13 th century succeeded in making this combination, because it entirely abandoned Roman traditions, and only at that epoch did these private structures assume a character truly French and homogeneous, adopting logical methods according to the materials used in the work. It suffices to look at the western manuscripts of the 9 th, 10 th and 11 th centuries, at some ivory carvings of that epoch, and even at the tapestry of Bayeux, to prove the influence of the traditions of Gallo-Roman construction in the masonry of the ground stories of the habitations, and that of Indo-Germanic wolden structures on the upper parts of palaces and houses, while the churches always affected the form of the Latin basilica or that of the Byzantine religious edifice.

Evidently if the lords and citizens allowed the conks to a arrange the architecture of their monasteries at their pleasu re (and this was Latin by tradition), they exerted an influen ce on constructors charged with erecting their habitations, a and in spite of the antipathy existing between the caste of the conquerors from beyond the Rhine and the old Gauls that had become Latins, it seemed that at the contact of the purest races, the Gallo-Roman recalled its origin and gradually resumed the native tastes, reacting against the Roman arts so long continued, and in its habitations was pleased to compose an art of its own. Thus already in the 12 th century, t the houses of the citizens nowise resembled the residence buildings of the monasteries: it is a different art with other methods of construction; civil architecture is formed with the establishment of the communes, it assumes its independent charm just like the feudal castle, which on its part differs momore and more from the Roman villa, to the traditions of which the abbeys alone remain faithful. It is always interesting to see how among peoples left to their own instincts, the arts

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In the 12 to century monastic sechitecture has resound its -mon of Lucyastia Cherus. . The way on macharts has xuelle sore no us cas mounted or is is is dealy, by imposing on is stationty as a primary condition; but after aim and parish -deliberate about the ad a true of religious astallian-Bester Add shoot didy is the Course bushese. On bue contraer, military and deserve acousticoure develop for vasilin ,va tous activity; tas to seasing of countries are decidedly sac aside, and bus offerens, like bus locke, desired to neve s flevirte ars, that lent inself to all requirements of the counties ablice of a coccee. As soon ac the construction decis establishmod is seakened, the municipal and even the colatical soir. a snowered, and bus convers ass not get ended. second to stuan ent all even valuable the sun to skien lie oses sinimans, and fifty years earlier, must have saved from that nanasteries was plan of a palace, even of the ironwork of one

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by imperiect documents afforced by the mandactions; nonever
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11 to century and beginning of the 12 to does not recall the Soman nouse. The outlook is no longer on the internal courts, as in the antique bouse, but on the outline street, and if the court still exists, it is reserved for receip dones no services. From the street one directly enters the principal nail, are at any at any at above the propert stage. If the

and especially architecture reflect the tendencies of their minds.

In the 12 th century monastic architecture has reached its climax and advances no farther. S. Bernard endeavored to restore to it the meaning that it lost daily, by imposing on it simplicity as a primary condition: but after him that puritan art, that he claimed to give as a type of religious establishments, was swept away in the common torrent. On the contrary, military and domestic architecture developed with prodigious activity; the old remains of Roman arts were decidedly set aside, and the citizens, like the lords, desired to have a flexible art, that lent itself to all requirements of the changing habits of a people. As soon as the power of the religious establishments weakened, the municipal anf even the political spirit appeared, and the century was not yet ended. when all works of art and industry were in the hands of those citizens, who fifty years earlier, must have asked from the monasteries the plan of a palace, even of the ironwork of the

It would be of the highest interest to have again today some of those city houses of the 11 th century, i.e., of the epepoch when the dallo-Roman traditions were still quite entire, and with the primitive Gaulish combined so strongly with the architectural forms imported by the people from the north of Germany and by the Normans. We only have from those times very imperfect documents afforded by the manuscripts; however they allow us to prove the presence of those wooden structures, that have an analogy only with some old carpentry structures of Denmark, Tyrol and Switzerland. 1

Note 1.p.219. But it must be stated that the Slavic element has profoundly modified these structures of the Tyrol, yet o one still recognizes there the traces of that Indo-Germanic corporately characterized in the monmuents on manuscripts.

The appearance of the French city house of the end of the 11 th century and beginning of the 12 th does not recall the Roman house. The outlook is no longer on the internal courts, as in the antique house, but on the public street, and if the court still exists, it is reserved for merely domestic services. From the street one directly enters the principal hall, nearly always raised above the ground by several steps. If the

provention assets a transfer of the first ball as written and and any reserved and eas is doubled of a rear room, which are the configurations as a kinder, or as a dicide room an archaery devarance on an archaery devarance on an arill arold too length, exclanations. Here then (2) is the class of one of the archaer of the besinant of the 17 in century. From the street one ascends to the half by the century of stees. The archaer of a second in the archaer of a second in the archaer of the archaer of stees. The archaer of the ar

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belonging to private men had no need of shope on the street.

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other to recognize these orrangements in houses at sortbor, a

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Fars second lending is erope supported by conselling or by a lighte column at one outer andle. The anderside of the landand so suscended, sarves for a state for toe despent to cellar. These are denerally socious, vell built and seil vonsilated, with central columns and transferse arones, fiven sosucress there are two stornes of ceilers, our ticularly in provicees with vinevants. Seside too encourage toomsey, the in solio and neavily arones, is a libile obsained for recoriusing ususons that knock so the coor. From that first hall, allon 3 vo has serence sociool report a vo vine hotosil vicaven er the Joonway, siled the seather is fine, 3 one enters a long B andthe at the signed shairs learned so the second scory, and cenera warm one passes into the little internal court D. a sirvil as comeon to several bonses and obsessible a volle fluc unis court is lighted one reac room O mat server as kirches doe one farily. In the autona tions in autonopolitical

habitation has some importance, that first hall in which persons are received and eat is doubled by a rear room, which then serves as a kitchen, or as a dining room on ordinary days; the chambers are situated in the second story. But a drawn plan will avoid too lengthy explanations. Here then (3) is the plan of one of those houses of the beginning of the 12 th century. From the street one ascends to the hall A by the bent flight of steps presenting a first landing with a bench, and then a second landing enclosed before the entrance door, which is solid.

Note 1.p. 220. After plans collected especially in Burgundy, Nivernats and upper Champagne.

Note 2.p.220. This arrangement is common in the provinces where stone is abundant, as in Burgundy and upper Champagne; it is well understood to have been adopted, when the houses belonging to private men had no need of shops on the street. Remains of those houses with stairway and enclosed landing a are to be seen at Vezelay and at Montreale. We have also been able to recognize these arrangements in houses at Montbar, S semur, Chatillon-sur-Seine, Arc-en-Barrois, Chateau-Villain and Joinville. There still exist ground stories of this kind perfectly preserved in certain Italian cities, and particularly at Viterbo. (See Architecture civile et domestique of NM. Verdier et Cattois).

This second landing is either supported by corbelling or by a little column at the outer angle, the underside of the landing so suspended, serves for anshelter for the descent to the cellar. These are generally spacious, well built and well ventilated. with central columns and transverse arches. Even sometimes there are two stories of cellars, particularly in provinces with vineyards. Beside the entrance doorway, that is solid and heavily ironed, is a little opening for recognizing persons that knock at the door. From that first hall, which is usually lighted only by a window looking outside and by t the doorway, when the weather is fine, one enters a lobby B ending at the winding stairs leading to the second story, and beneath which one passes into the little internal court D, s sometimes common to several houses and possessinm a wella From this court is lighted the rear room C that serves as kitchen for the family. The the second story the arrangement is the where here frome soon derves as before for and fully, and rear whom belled releared for see servels. Set held second a grony is often built of mond. I all mid window occupies more than unif the source, and the whole is covered by a projecting roof, for the builting is house at the econd and reselv persons it as from the builting is shown. The mid dimeer construction of the shoet stark is mid of large to the shoet stark is not large to the stark of the owner rand has an inverse on the division halfs, and is playeded before nother time timetre; on the pieces of drawings made with a coint. In a seneration of the projection of the roof and the timetre; on the area of the projection of the roof and the hill number work to self are entired in striking colors, yelldy and block, which a can brown or red, red and clack. The give or the freede of the formesous nouse.

inte 5.p.270. The custom of leaving open the doorwous of ground stories in peaceful tires, and sion the temperature so not too cold, is an encient hibit continued very late. The doorway was then eimply sovered by a partiere. Vishettes of manuscripts always indicate that kind of closure.

Note 1.0.280. Hould a number of those freued stories of houses of the 12 th century surmanunted by modern stories in arsonry, we have been induced to think that the second state ories orthing that is such that the the second state of the distribution to the traces of the distribution of the front corbeiled out flush with this sort construction of the front corbeiled out flush with this sort of buttress built on the extension of the party wolls.

Note 1.p.222. We hope found truces of those pointines on wood removed and replaced in etructures of the 14 th and 15 th centuries, particularly on the refters recut.

nes internal accordenestr of the forman and Verovindian nouses: interest from those of the fello-forman and Verovindian nouses: interest one still finds in the latter the ecosposity of the accrement of the words, while the common life is introught in the house of the 11 th century. Steepery of yours also mentions the words the words in the sens mill and prepare can intro the inomial the mill and prepare can it was ficur required for the food of the words deverating the sens of the 12 the words of the 12 the words of the 12 the sens placed. In the Romanesche boars of the 12 to the contact the sens placed. In the sense placed.

same; the front room serves as bedroom for the family, the r rear room being reserved for the servants. But this second s story is often built of wood. Its wide window occupies more than half the space, and the whole is covered by a projecting roof, for the building is double at that epoch and rarely presents its gable to the street. The half timber construction of the front of the upper storw is made of large timbers, and rests on very strong beams, that on the other hand lie on the division walls, and is plastered between the timbers; on the plaster are traces of drawings made with a point. The underside of the projection of the roof and the half timber work itself are painted in striking colors, yelloy and black, white and brown or red, red and black. We give below the plan and view of the facade of that Romanesque house.

Note 3.p.220. The custom of leaving open the doorways of ground stories in peaceful times, and when the temperature was not too cold, is an ancient habit continued very late. The doorway was then simply covered by a portiere. Vignettes of manuscripts always indicate that kind of closure.

Note 4.p.220. Having found a number of those ground stories of houses of the 12 th century surmounted by modern stories in masonry, we have been induced to think that the second stories originally were lightly built. Then by examining the tops of the division walls that alone remained in these structures, we have been able to prove the traces of half timber construction of the front corbelled out flush with this sort of buttress built on the extension of the party walls.

Note 1.p.222. We have found traces of those paintings on wood removed and replaced in structures of the 14 th and 15 th centuries, particularly on the rafters recut.

The internal arrangementr of the Romanesque house were sensibly different from those of the Gallo-Roman and Merovingian houses, indeed one still finds in the latter the separation of the apartment of the women, while the common life is indicated in the house of the 11 th century. Gregory of Tours also mentions the women's apartment; he says that "Septimina was sent into the domain of Marlheim to turn the mill and prepare each day the flour required for the food of the women gathered in the women's apartment." In the Romanesque house of the 12 th century the family collected around the same hearth. In the

recate othery at a large coor is too show, if the original in a serverant; then we sail is in the show's form. This is is are as a befroon, a establish olars; it is large of one and the object of an future, mother and the constrance of shall operate account story. Then nearly aiming the kinded is separated for second story. Then nearly aiming the kinded is separated for one to reach it under cover; a chastle court; a fallery points one to reach it under cover; a chastle confining the second story that after the second second story that it serves the second second of the second second of the second of the kinded of the second second of the kinded of the second of the modes of the outer of the order of the order of the old of the second of the old one of them.

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Note 1. p. 228. See Archttecture cio. et dom. of MM. Verdler

week and the party of the party of the party of the party of irs at 3, the suop as 0, the oben peredo at 8, court as B, obe keronen at H wich its freet fireolege I. A will as a. 7mm -isis one le laverra ond amona file 2 as murab ai viona bocoes es at K, toe nell at E, open or diaged fallory as V, save a namen avenue to assend to the earcets, and a charte at 3. The seneral saction terround the bouse on a discount to Fig. A se A, and a spreas disvation of the founds at A. Thus faceto is sail neessayed toray on to use level C, the story of the derects slore paving been destroyed; as for the later builders, suese scarcely remain any traces. Fine couses of the 12 to cenpary of the city of Cluny are adjoining, i.e., are separated by overy walls common to two occordities, and sincerd cord o saston may ne common in most cronen strien, there are certain local acts, our dioutacly in Euroacty, whomas our soushe or war . Reserved werren of hemereore ene selations of fit but as it and consequently each has in somment airs william on recognize that tors outroo likewise exists in dost of the line the wailed craise, built as one time at i'e end of the 13 th sentury under the rule of Boners I in Guisane. But one redulretins is force concerning the location of mouses in the citres of Prauce in the middle ages, their projections on the p satis serset, the manner of li-ntine, the disorates of mator, ground story the large room is the shop, if the owner is a m merchant; then the hall is in the second story. This hall serves as a bedroom, a gathering place; it is large and contains the bad of the father, mother and the children of small age. The apprentices and servants sleep in the garrets over the s second story. Then nearly always the kitchen is separated from the principal building by a little court; a gallery permits one to reach it under cover, a passage containing the straight stairs flanks the shop and affords entrance directly from the street into the hall of the second story. From that hall one likewise passes by a gallery to the story over the kitchen. according to this system are erected the houses of the city of Cluny, which date from the 12 th century. We give (4) the plan of one of them.

Note 2.p.222. Hist. France. Book IX. Chapter 38.

Note 1.p.228. See Architecture civ. et dom. of MM. Verdier and dattois.

The ground story A shows the passage with the straight stairs at C, the shop at D, the open portico at E. court at F. the ketchen at H with its great fireplace I. A well at g. The second story is drawn at B and shows the arreval of the stairs at K, the hall at L, open or glazed gallery at N. with a narrow stairs to ascend to the garrets, and a chamber at O. The general section through this house on a b is drawn in Fig. 5 at A, and a street elevation of the facade at R. This facade is still preserved today up to the level C. the story of the garrets alone having been destroyed; as for the later buildings, these scarcely remain any traces. The houses of the 12 th century of the city of Cluny are adjoining, i.e., are separated by party walls common to two properties, and although that c custom may be common in most french cities, there are certain localities, particularly in Burgundy, where the houses of the 12 th and 13 th centuries are separated by narrow passages, and consequently each has its independent side walls. One can recognize that this custoc likewise exists in most of the little walled cities, built at one time at the end of the 13 th century under the rule of Edward I in Guienne. But the regulations in force concerning the location of houses in the cities of Frauce in the middle ages, their projections on the p public street, the manner of lighting, the discharge of water,

viried infinitely, even tord nevice satablesed a particular occupa on the dericate to his jurisdiction. It say occurred that the uniteral sacrets viil, a single roof with two caves on two lateral sacrets.

Oes still sees in the little city of whitheste some rands and little after than system, and one among chases is near the second and the second availant, which has seen very well preserved. Fig. 5 recrudices the pian. First debt is noted noted noted noted to debt from the first years of the 13 th century.

DESCRIPTION NAMED IN COURT OF STREET, ASSOCIATION OF STREET, S

at 3 ara the stand nown to tee cellers on the public street accounted to Tursdentish customs, at C C' are the nails of the stone story. At 9 are two lastle courts covered by nat roots of wood only rising over the frond story. The stair nail is equal, though the filteness are speciate. At one hall C one acceuse to the second by taking one in order 5 and the the hall C or a street the length of the nail of the story the hour of the special course. The start is to the noise C is at 6, and that of the noise of the story the hourse of the secret the double hall. It is a courter well. In this street, this double hall.

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The isolating passages peckes the abuses, whether these vere states or double, necessarily had the architects to bill some walls nays the cassages and ficles of the sheet. Those oessages are not remark, and a

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varied infinitely, each lord having established a particular custom on the territory subject to his jurisdiction. It also occurred that two houses adjoined with an intermediate party wall, a single roof with two eaves on two lateral streets.

One still sees in the little city of montreale some houses built after this system, and one among others is near the gate on the side toward Avallon, which has been very well preserved. Fig. 5 reproduces the plan. That double house appears to date from the first years of the 13 th century.

At A are the entrances, flights of steps and stone benches: at B are the steps down to the cellars on the public street according to Burgundian customs, at C C' are the halls of the ground story. At D are two little courts covered by hip roofs of wood only rising over the ground story. The stair hall is common, though its flights are separate. From the hall C one ascends to the second by taking the landing E and to the hall C' by taking the landing F; thus in the upper story the door of the stairs in the house C is at G, and that of the house C' at H. At I is a common well. On the street, this double h house presents the facade (7). The front buttresses with their corbels support a balcony in the second story, and the projection of the gable roof with a common gable, so that the t two flights of steps, the two descents to the cellars and the two balconies are sheltered. Behind these habitations are planted little gardens reached by the narrow passages. We campt state whether these gardens were common to several houses or belonged only to some one of them, for the enclosures of these grounds have long since been overthrown! they extend to the a ancient rampart.

The isolating passages between the houses, whether these w were single or double, necessarily led the architects to build eave walls next the passages and gables on the street. Those passages are termed "endronnes" in the Rascon language, and s sometimes existed when the houses formed a continuous portico or covered passage along the street, an arrangement very common in small French and English walled cities built in the 13 th and 14 th centurieson the banks of the Garonne, Dordogne and Lot, and in the southern provinces. One perfectly understands, that if it was necessary to leave passages between the properties, two lots were united to profit by the land of one

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passage. Of two houses, two areas really made but one, with a separating wall in the axis of the gable. However this method is rarely employed.

Note 1.p.225. Among the little wolled cities built at one spurt from 1280 to 1330, we shall cite those of Attues-Nortes, correct Corcessonne, (lower city), Libourne, Villeneuve d'Aden, Villefranche-de-Rouerge, montflanauin, Valence, gastillones, Saubeterre, Puyguilhen, Lo Soupetot, Villereol in Agenois, Villeiranche-de-Belves, ba hinde, Beaumont, Domme, Sainte-Foy, Villefranche-de-bangchupt, Molieres and Mantpozier, in lower Perigord; gont-Segur, Belin, Codilloc, S. Osbert on Creon, in the suburbs as of Bordeoux. (See Articles on l'Architecture civile du moyen ose, by MM Relix de Verntilh and Victor Petit: Annales archocologiques; Vols. VI, X, XI, XII). In the North of France, we will cite also the cities of Villeneuve-le-Boi, Villeneuve-l' Archeveque: all those little cities present regular plans laid out with a cord, with places, markets, churches, fountains and remports, houses with or without concred olleys, but on equal lant. We know that these facts derange somewhat the thcories of the irregularity and the systematic disorder, that ore attached to the civil structure: of the middle ages; but we can only invite archaeologists to visit these localities. if they destre to obtain an idea of a little city of the 13: th century, built on a fixed plan within a very brief space of time. As M. de Verneilh soid so well:- "In the second half of the 13 th century and in a very limited region of France, in quienne and in hanguedoc, perhaps fifty cities were founded without our historians having given the least attention to that great work of civilization and of progress. At least twenty of those little cities, the most recent and most perfect, are due to the English domination, and the histories of Sismondi and of Guizot do not mention this benefit, olways real, t though doting back six centuries. If instead of founding so many cities, Edward I had destroyed a single one by violence, all our books would have still recknoned with that armed act. But the history of the middle ages is made thus." Let us add that these precious data collected by one of our most learned French prohosologists, do not appear to be consulted by N. C shompoliton-Figeoc, who enlorges at length on the urbon structures of the middle ages in his treatise on Droits et Usages,

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where wa found the pions of Aleuez-workes, Willensubs-Le-Rois,

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encroaching on the matter of architecture without having had leisure to visit some of these civil structures, and asks us where we found the plans of liques-wortes. Filleneuve-le-Roi, Sainte Foy and Montpazier! As if the execution corresponded to the projects! Who also demands of us to prove the antiquity of the houses of the lity of Cluny. But could we not with much more reason require him to demonstrate the authenticity of the texts, that he takes the trouble to transcribe? Those cities are still standing and are inhobited, and in some days anyone can see them with their straight streets and the rematins of their ramports, their squares and their churches; as for the projects of their location, it would doubtless be interesting to recover them, although that discovery could add nothing of importance to the fact of the existence of those cities, that for six centuries have not ceased to be inhabited.

The alleys between the houses sometimes have only the width of a channel stone, as one can yet see in the city of Wontpazier, whose general plan is one of such perfect regularity a and arrangement (Art. Alignement, Fig. 1), but then these houses have two facades, one on the street of 32.8 ft. width, the rear one on an alley about 9.8 ft. We shall soon return to these houses of the end of the 13 th century.

Note 1.p.227. One will see that this custom is retained in London.

We have given a house of the city of Cluny that dates from the 12 th century; in our Art. Construction, Figs. 115, 116, 117 and 118, are seen the elevations, plans and sections of a facade of a house of the same city, built about the middle of the 13 th centurm. The windows are already longer, the stories are higher, the stone construction is more important and the appearance more elegant. En some walled cities were erected in the 13 th century houses with several stories, whose facades were entirely built od stone. On the square of the c city of S. Antonin, that possesses such beautiful municipal house of the 12 th century (Art. Hotel de Ville), one sees quite a large number of houses of the 13 th century with a monumental appearance. Those houses are spacious and deep, possessing facades sufficiently extended and remarkably constructed. The ground story is occupied by stores or shops, the second and third stories being occupied next the street by a

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the city of 3. Antonin for 1300 liones fournois (\$313). The first of t

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a great hall in front with a stairs and little room attached and looking out on an alley as at Wontpazier. Here (8) is the facade of one of those houses fronting on the square of the city.

Note 1.p.228. S. Louis purchased from the count of Toulouse the city of S. Antonin for 1500 libres Tournois (\$315). The house that we give is a little later than the time of that p purchase.

The arches of the ground story served as places for sales on market days, as still practised in many localities. Then portiones were suspended beneath the arches to shelter sellers and buyers. The large halls in the second and third stories are fully lighted by continuous arcades, that in the interior form windows separated by narrow piers. At the top of the house beneath the roof is the attic occupied by servants, and where provisions were stored. One will note that the piers of the windows at the height of the springings have rings of iron with crockets. Those rings were intended to receive poles to which were fastened awnings. That custom is continued in the south of France, Italy and Spain. Fig. 9 reproduces the arrangement of these awnings.

At A is one of the ring crockets fixed in the masonry. The awnings were divided in bays, as well as the poles that fitted into each other. (See detail B). Struts C raised the bottom of the cloth, whose movement and inclination were maintained by crossed cords passing underneath, and fixed by rings to t the crockets D. A wide gathered fall fell in front, as much to stop the rays of the sun as to give weight to the lower p part of the awning, and thus to comple the struts C to remain inclined.

The little city of Cordes between S. Antoniu and Gouillach has retained nearly all its houses that date from the 12 th and 13 th centuries, and approximate by their architectural style and internal arrangement that just described. But those cities on the banks of the Garonne, tot and Aveyron, were deeply permeated by the communal spirit, or rather had never ab abandoned the municipal traditions of the Gallo-Roman epoch; most had retained the remains of private habitations, that i indicate a very developed local administration, great internal prosperity and habits of comfort and even luxury that dis-

The state of the s when it francia and him is no single bless another scope with tale presulton, taios flatage saffiase and discesse till aspreparaging ourgins arising variation, become they reprthe time and constrain the about the and the sections, for eximple, that the course of the eight star the only both definitions william bee that alless her troofs ,afafet Carriely ten wil account of to tone and the friend blotteverter, Tollores, Northcorp, when, metalleress, Tune, Proces the present that the same and the same and the side trues, the state and a second true and a second true and the second true and true OCCUPATION TO BUT TO BE THE PROPERTY OF THE SERVICE AND BUT THE PARTY OF THE SERVICE AND ADDRESS OF TH dille manual blo section to see a section of the block of stiming, entit talk to mixtee electrical actions, which in THE STREET STREET STREET STREET STREET gang and organization and area with a label and the poly-BUREAU HAZ NO BALTERANTO TO RESTRICT THOSE BAZ OF RESIDENCE TO --- The said of define to the size in , we say the first tree in comment · mag restant and remembers over a but there i men els els released all mode and services to alle the contract today alaborate ADDRESS OF THE PROPERTY OF THE PERSON OF THE PROPERTY OF THE PROPERTY OF THE PERSON OF -completely des controlly man princepts a presentation ofth am a Substitute of a substitute of the contraction of the substitute of the substitu - TO THE YELD RESIDENCE OF THE BOOK NEWSCOOLS OF THE des and the managen of W --- as Ports, a free first would be with the bearing of the second of the contract of the second Common perfectly was not in order other most in sec or one re too mananon of W -- with a mananon of Sers or that of do is frementie, managed S. Pol or teat of Clumy, or even the DESCRIPTION OF PARTY SAME AS ADDRESS OF VALUE AND PARTY OF ADDRESS. on which side will be the lungbers?

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disappeared after the religious wars of the 16 th century. @ Our epoch allows itself freely to go wit the current of certain prejudices, which flatter selflove and dispense with studying properly certain arduous questions, because they require time and research. How many times has it not been written. for example, that the houses of the middle ages are only poor hotels, gloomy and small, dark and finally uninhabitable? 1 Certainly the old houses of S. Antonin, Rordes, S. Yriex, Montpazier, Toulouse, Perigueux, Alby, Mont-Ferrand, Cluny, Provins, Bourges, Laon, Beauvais, Rheims, Soissons, Dol, Gaen, S Shartres, Dreux, Angers, etc., are only small edifices, if c compared to our modern mansions of Paris, Lyons or Rouen, but it should not be forgotten that most of those old houses still standing, exist only in cities singularly declined, that in cities of the second or third rank, now abandoned but then w rich and prosperous, although they were of little importance if compared to the great centres of population of the same e epoch, that those old houses, if placed parallel to those puilt today in the same localities, are incomparably better constructed, better understood and with an appearance less poor; that they indicate a social state more advanced and more solidly established, a prosperity leas fleeting and stronger municipal institutions. It is evident that by establishing a parallel between one of those houses of the little city of Cordes and the mansion of M --- at Paris, a free field would be opened to jesting: but let us compare an old house of S. Antonin to one of those built today in the same locality: compare the mansion of M -- with a mansion of Sens or that of de la Tremoille, mansion S. Pol or that of Cluny, or even the house of Jacques Coeur at Bourges, that exists nearly entire, on which side will be the laughers?

Note 1.p.230. See the work of M. Champollion-Figeoc, Droits et Usages, already cited. If a man of profound erudition shows those prejudices, one cannot be surprised to see them extend among the common people.

We do not desire to make here a social nor even a political criticism; we shall speak of art. Now when art is concerned, it is strange illusion to confound the civilized condition with the intellectual development. If a society be perfectly policed, if habits of comfort be disseminated in the lower

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classes of the society, that does not state that its intelligence is developed; particularly that does not cause the life to be diffused in all branches of the social body. If in the 12 th or during the 13 th and 14 th centuries great edifices were built, and if artists abounded in Paris. Rouen. Lyons. R Rheims, Chartres, Bourges, Tours and Toulouse; in the last 1 little city, in the smallest village of France would be found an art also relatively elevated, is that so today? We baild magnificent palaces at Paris, Lyons or Marseilles; but wha is done in the chief places of a canton, in villages? Boor s shaky and badly conceived structures, hideous in appearance although they affect a certain appearance of luxury: inconvenient houses, scarcely sheltered, concealing the egnorance of the contractor or the stinginess of the owned under coatings that every winter causes to fall. Into those weak buildings art not only does not enter, but good sense and reason seem to be excluted. A shred of puerile vanity alone appears on the symmetrical facade or in the interiors with their poor luxury. We marvel to see in a little antique city like Pompeii, mean houses built of brick covered by stucco still present examples of delicate art: but we possessed in the middle ages the same privilege of placing art in everything. The houses of Pompeii would scarcely be comfortable for us. people of the 19 th century, those of the 13 th century in France are hardly more so: what does that matter in the question of art? The houses of Pompeii charm us because they are indeed the dwellings of the innabitants of Campania: those of Cluny or of Cordes have the same qualities. But what will be ours for the people that will see them six centuries hencel if any remain? We admit that c comfort is the master today; then let us be consistent.

Is it comfortable to erect at Marsiilles houses on the model of those of Paris, or even to construct facades exposed to the north similar to those open to the south? It is comfortable to light the rooms, small or great, by means of windows of uniform dimensions, to have narrow window piers for great halls and wide ones for cabinets? Porticos on the house, that allow sun or rain to enter for the entire width of their pavement, are those comfortable? It is comfortable that this multiplied division into rooms of an area of small extent, which causes life in the intecior to be spent in opening and closing

desired the cold contract to cold the condition formiture? And those stories of less than 9.9 ft. in neitht manage was suited, are take assintal ass seafertain True to de agranace desides and angre sets sens , sings set se -ulacing of uncertainty, this sistable of confoliates as inrelative to the table of the control of the bar of the tes tauge forficeable taleis? Let it to tak oblice, talen it is made worse! The little white boase with wails as team to caractery, sents received to marks of many, avaisan alone ing hally, daug ground everting, figger this chipes that eressin, FELTH LL , service to the service to the service to the service of Anteresta appreis as a between it agrees carreins, attached and the test as the many cast of the configuration of the patential state of the where, it is noticed to be the contraction of contraction and where a great off the state of the all alle to self-fractions and tractioned by area; was apprilately roofs are accurate about with the entry first of an entry term of the age of the con--and the place with the training the contract of any The last term of the contract of the contract of the contract of The rates in town (thought the Chemical and thought the tart The state of the s cause cracks because lurde cooms are riculted in the francia with the territories of the first of the contract of the contr tions, Piriolesis sint on the stille of three, be should do ver and, if as insiet to exception of the new or less seems es steinfolders of the solute abstent, tellects carried in Aceda de la composición del composición de la co beneficial nin this and trips acons and ac and can provide the of aim. Besides, had he refused, would not ben orners have b Sees found?

 doors, and to not know where to place the most indispensable furniture? And those storiesof less than 9.8 ft. in height beneath the ceiling, are they healthful and comfortable? Those thin walls, those zinc roors that subject interiors to all variations of temperature, that absence of projections on facades, that leaves the openings exposed all day to the sun. are those comfortable things? Let us go to the country, where it is much worse! The little white house with walls as thin as pasteboard, roofs covered by sheets of zinc, windows closing badly, damp ground stories, floors and stairs that squeak. kitchens diffusing a nauseous odor in the interior, but which externally appoear as a beautiful square pavilion. gleaming in the sun! is that habitation comfortable? The modern chaten u with its little towers, ornamented roofs, facings of brick or stone, that pretend to imitate old construction: is this chateau comfortable? Not at all. All that is show: the tower s are fastened by iron: the complicated roofs are covered economically, but have open crestings of zinc, that allow the water to leak into the interior; the thin walls orack; the floors are too weak for their spans and deflect. The discharge f for water is insufficient: the fireplaces smoke because the hearths are wide, as proper in a chateau, and the flues are small because they pass in thin walls. Everywhere overhangs cause cracks because large rooms are required in the ground story, and the upper stories are infinitely divided by partitions. Fireplaces rest on the middle of floors. We should never end, if we desired to enumerate all the more or less secret wretchedness of the modern chateau. defects revealed in time to others by some lawsuit brought against the complaisant architect, who has on the whole only done what was required of him. Besides, had he refused, would not ten others have b been found?

The habitations of the middle ages were made for the habits of those that erected them; further, they always wisely and simply constructed. Every need is indicated by a particular arrangement; the door is not made to please the eyes of the passer, but for him that enters the house. The window is not arranged with symme rical art, but it lights the room it is designed to light, and it has dimensions suited to that room. The stairs is not concealed but visible. The facade is shelt-

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The sales of the original and college, or the college, we are -code and writering that of the later transfer a go size that the tion of teases of the astroids, Correct on Tering, Dutter from 192 to 1935, we find nown of the set transfer, tondend and with the first that the court is the first that the first wallacab by like short and showle so been accommission to any living sight and the side of the did present and one whole A STATE BELLET OF A STREET OF THE THE THE RESERVENCE It he got bed the true to decide the area of the second to ten andries de adres . Ter es al minerora follatare es una CHICA IN ITEMS TO CONTRACT TO THE CONTRACT OF A STATE OF THE PROPERTY OF THE CONTRACT OF THE C will fall to I for and mane of their for some were not to an tion of ". Townsels his content of the state of the state of the state of then address the contract of the state of th with and bequiers when of writed and to section and the venture ins and ense set to ennember 1 reado nort yrote havery ens to the same provinces, those have been destroyed in the nouse on Pue S. wartin of Aminas.

Note 1.p.283. There still extet neasoth this house two stor-

one takes a parallel between the houses built in the Ter's, a and those is frank part constructed of brick in captall, pith of the Boute (10) is a bouse of Seassais; it is contempted to the middle of the 13 to century. The bases of the park

sheltered if necessary. Sculpture is rare, but the floors are good and solid, and the walls have sufficient thickness. In t the southern provinces the windows are small, in those of the north, they are numerous and large, pesides for the house of the citizen, the programme varies little. Always a hall in each story with internal stairs, or more frequently at the r rear with a little court. It is admitted that this is not comfortable for us; but that arrangement suited the habits of t the time, when even in the castles the family, i.e., the kinsmen and servants gathered in one room around the master. The programme being given, the architects fully satisfied it, which allows us to assume that they would have equally fulfilled any other programme, even those of today.

If in a city of the North, commercial and populous, we seek houses built on a programme similar to that causing the erection of those of S. Antonin, Cordes and Sarlat, dating from 1230 to 1300, we find some of them at Beauvais, Soissons and Amiens, much mutilated indeed, but which still show their system of construction. There is always the large hall in each story nekt the street: but in the cities of the North civil architecture is larger and more monumental. The houses manifest the spirit of the communes that have reconquered their prilileges. For example, let us examine this house that one still sees in beautiful fragments in Rue 5. Martiu at Amiens, and which recalls by its style the houses of Beauvais and Soissons of the same epoch (9 bis): it dates from 1230 to 1240 like that of S. Antoniu. But there is a certain magisteroal air in that architecture, which gives it a marked superiority over those of the cities of the South. We have restored the gable of the ground story from other fragments of the same time and the same provinces, those have been destroyed in the house on Rue S. wartin of Amiens. 1

Note 1.p.233. There still exist beneath this house two stories of very fine cellars.

This marked difference of style is more striking still, when one takes a parallel between the houses built in the North, a and those in great part constructed of brick in certain cities of the South. Here (10) is a house of Caussade: it is contemporaneous with that of S. Antonin and that of Amiens, and dates from the middle of the 13 th century. The bases of the piers

not the french attent, see takets advance of the realized new deep I designate worth wrongs area of work appearance and the attent the rest of the construction is of brick. In also but acuse -th variety like a strill is not their factor for the sale of device ware with fireplaces, a state and a rear cabanet liented fr-THE RESIDENCE OF THE PROPERTY AND ADDRESS OF A SECREPT AND ASSESSED AS ADDRESS OF THE PROPERTY AND ADDRESS OF THE PROPERTY ADDRESS OF THE PROPERTY AND ADDRESS OF THE PROPERTY ADDRESS OF THE PROPERTY AND ADDRESS OF THE PROPERTY ADDRESS OF forms two rooms. One still fauls in that habitation the infile-To thingsup a see tied provided plants sidely do to you Make and Approx belief arrested whitehead the satisfies over what is saidle through and an annual and an interestable ess to the later, from Till to about 1939 let us man use of the L He select to the Little or pictors and in restricts his compact printed the agent at the state as an initial termination for do Tambour. That boase has a much ratilitied tround story, but has preserved intest its second erory on the papilo sarred. T our daily Do court our as extracts, as such and Tore any to be found under the modern roof.

Note 2.p.233. This house belongs to 4. de Noleville, who measond story were chonded in the 15 th century, but the planescord story were chonded in the 15 th century, but the planescored. Those of the two upper stories have been preserved.

Note 1.p.238. In the work of M. Werdier and Sattais, see some houses of the southern prostness, notably that of the feacure, of Cordes. There are seen on the facade of the house in the facade of the house.

es of mosicians, larger than niture; bedinning at the felt & the first masician plays on the dram and a sort of clerines; and first masician plays on the dram and a sort of clerines; and the first f

of the ground story, the little columns of the windows, the b bands of the imposts alone are of hard stone from Caylus, t the rest of the construction is of brick. 2 In plan that house gives in the second and third stories a large hall nearly souare with fireplaces, a stairs and a rear cabinet lighted from a garden. The fourth story is divided by a partition and forms two rooms. One still feels in that habitation the influence of the little private fortress: that was a remainder of those traditions of southern municipalities during the wars of the Albigonses. 1 tet us then take in the Northa house a litthe later, from 1240 to about 1250; let us seek one of the l largest and richest of that epoch; ue shall go to Rheims and examine the house of the musicians, so called, situated in Rue du Tambour. That house has a much mutilated ground story, but has preserved intact its second story on the public street. T The roof rose above in mansards, no more traces of which are to be found under the modern roof.

Note 2.p.233. This house belongs to y. de Naleville, who we was willing to promise me neither to sell nor destroy the The shops of the lower story were closed and the windows of the second story were changed in the 15 th century, but the plan and the form of the primitive windows have been perfectly recovered. Those of the two upper stories have been preserved.

Note 1.p.236. In the work of NN. Verdier and Sattais, see some houses of the southern provinces, notably that of the Veneur, at Cordes. There are seen on the facade of the house of gaussade given here, rings fixed to the jambs of the windows to hold rods and awnings as protections from the sun.

The facade of this house possesses four high and wide windows in the piers; those niches are decorated by seated figures of musicians, larger than nature; beginning at the felt the first musician plays on the drum and a sort of clarinet; the second plays the bagpipe, the third in the middle holds a falcon on his fist; the fourth plays the harp and the fifth the violin; the last is crowned by a chaplet of flowers. Here (11) is a bay of the facade. Of the shops of the ground story indicated in our Fig., there remain only the small arches and one of the piers. A wide carriage entrance opens at the opposite end into a court formerly surrounded by buildings of the same epoch, but of these only fragments are found. The build-

and oillines on the court.

in the best skyle of Champagae.

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building on the street is of single depth, and it seems that it was divided into two nearly equal rooms. The stairs was in the buildings on the court.

This house perhaps belonged to the confraternity of musicians of Rheims, which in the 13 th century enjoyed a certain reputation, not only in Champagne but also in the entire north. As may be judged by examination of our Fig., the construction is simple and the ornamentation is rich. The figures are in the best style of Champagne. 2

Note 2.p.236. Several times already has there been a question of the demolition of this beautiful house, the most interesting of the civil edifeces of Rheims. Awaiting that demolition, one of the owners (for the facade belongs to two private citizens) took care to have his facade pointed every two or three years, including the statues. If this house must be destroyed, it would be much desired, that the facade should be rebuilt in Rheims itself; certainly the small sacrifice that the city would then impose on itself would be very largely recompensed by the interest presented by the preservation of this work of art.

The provinces had for their private buildings different schools of art as for their churches and their public establishments. The house of Burgundy in the 13 th century did not resemble a house of Aquitaine, Ile-de-France or Normandy. Thus for example, we find only in Burgundy that sort of house, whose screw stairs is placed in the front wall next the street and serving as a vestibule to the ground storw. At Avallon a and Flavigny, in the little city of Semur in Auxois and even at Dijou, are still seen remains of houses, that present in plan the arrangement shown here (12). At the middle of the facade is placed the stairs A, partly corbelled out over the entrance doorway B; at the left or right, according as the stairs turn, is the door C that gives entrance to the first room D. from which one enters the second E and then the third F: and thus in each story. From the common room B, one enters a court or a little garden G. As a facade on the public street. this house presen s the elevation (13). The entrance door B is sheltered by the projection of the stairs, whose enclosure is placed on the ends of the steps corbelled out before the facade: an entrance 0 to the cellar is placed beneath the sill

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Torsier, on unsubblet the auditestines of bala wood ealer were the property of the second of the second of the party of the second - Co the side of the particular and the administration of education of the courter, where the telegraph as well as to the the terminal management to the extrement to the comment of with a fire a facility fire posses of all a sign of sign and a facility and a fac The state of the second state of the second I section describe the so released on the state of the state of LE PISTOLE COMMON LA TRANSLAGO COMPANIO DE SECURIO DE S - 12 CI CONT ESTER ATTER ELLEN VILLE CONTROL CONTROL OF THE PROPERTY AND ADMINISTRAL PROPERTY AND ADMINISTRATION ADMINISTRATION ADMINISTRATION ADMINISTRAL PROPERTY ADMINISTRATION ADMINISTRATION ADMINISTRAL PROPERTY ADMINISTRATION ADMINISTRATION ADMINISTRAL PROPERTY ADMINISTRATION ADMINISTRATION ADMINISTRAL PROPERTY ADMINISTRATION ADMINISTR what to delice roller a dearly that all of the or it as - In ... a gradual state of a term of a contract of a contract of the the state of the second of the second I THE COURT OF SERVICE AND STATE OF CRICKLES CO. one astituted a thousand citizens on the same type. Hach THE PARTY OF THE POST STREET, BY AND AND PARTY OF THE PAR was als seconds commentables, or present that are said as eleaste religio di contro licinofere a se minerira utili faccara to alesse the second tills intletues. The sail make he that the pluggering of the fit was arrested of the about the fit enitosicto no barcacus nelverna las ons ess breves benilo her alsolved at means fills transmission of his last entering in upper Cassosine. Pesites, where long and resistant stones are testing, trues ditters are surply subject to the series in a plack covered with lead. From the middle of the 17 wh on Asiant tailed in Revente and Chancedon, was evided ablanceof selec from Ahn roofs to Eall neights the facains, but July utoda alietides appaia entrapas berrascan or erester of it piers of the perty wall.

less of the 19 th and 19 th centuries, nearly all demalished

of one of the windows of the ground story; the bellars in Burgundy have always been an important appendage of the habitations. This simple, economical and commodious arrangement (for nothing in the second and third stories prevents the small r room F from becoming an antercom opening into the two large rooms D and E) accorded well with the procedures and materials of construction of Burgundy, which furnishes excellent hard stone, suitable to place those thin stair enclosures projecting on the ends of the steps of the first revolution.

further, on examining the habitations of this epoch which still exist in one province, if one finds that certain generaal arrangements of plans were adopted by all at the same moment. as according with the needs, yet one finds in the details and in the mode of piercing the windows, an extreme diversity. Because during that fine phase of the middle ages, the feeling of individuality was not extinguished; everyone thouant rather of satisfying his tastes or his personal needs. r rather than to imitate his neighbor, and to model himself on a uniform type. No municipality would have cared then to impose on all owners in the same street a uniform height of bands and a uniform style of architecture, and in that century, which men point out to us as a time of oppression, the idea would never have occurred to any authority whatever to mould t the habitations of a thousand citizens on the same type. Each one then had too much consciousness of his own individuality. and his personal responsibility, to suppose that men could be penned like animals in a zoological garden in similar barracks to please the eyes of idle loiterers. One will note in the e elevation in Fig. 13 the arrangement of the stone gutters inclined toward the two end gargoyles supported on projecting corbels. That is an arrangement still common in Burgundy and in upper Champagne. Besides, where long and resistant stones ara lacking, these gutters are simply hollowed in a beam or in a plank covered with lead. From the middle of the 13 th ce century indeed in Burgundy and Champagne, men avoided allowing water from the roofs to fall before the facades, but led it by gutters to projecting gargoyles placed vertically above piers of the party wall.

We saw at Vitteaux fifteen years since several charming houses of the 13 th and 14 th centuries, nearly all demolished

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ALL A MARKET WAS PROPERTY OF THE PROPERTY AS AS THE TANK A PARKET. the section to the last section and the section and the section and the cases appropriate all family distributed and the particular and the THE RESIDENCE REPORT OF THE BUILDING STREET AND RESIDENCE THE PRODUCT OF MAN AND AND AND AND AND AND ADDRESS. parameter the content to the chocal chocal and at the content at or belivit acca deems as a loca end appeared tains end at asad se exerc (71) norsevels enT . duitilled ont to nage our nr out A ten entraced bett, and at C to that at you haller. We wis-2 To other her se thinkers a majori on at writing will be assured one steps, but on a well formied as part platform. At the toe I SE LIGHTED BUT BOY HERE WELLED BUT TO BEARING BUT colorest liet, to as to include include the converted by moder THE RESIDENCE OF THE PARTY OF T NO THE REAL PROPERTY AND THE REAL PROPERTY AND THE DESCRIPTION OF THE PERSON OF -rik -likeligg at the salesty lests orn) is a seal that an by me consided sister, and by a corbel versically over the pier of the left party will, the arrestect has olaced a orographed areanel trues to smalter the entire facade (sor staystron). Water respect to the partiy wall ductor is thrown bo was left on the street by a mooden dergoyle, and to the liams a out one court by a wooden duce empayand late the stone reservoir placed in the corner of the kitoness In the second and second stories are fireplaces arranded in the party wall, and onlinerys wive caps are visible in the elevation. Paus on an area of about 1076 so. ft., and of which 160.2 anfo. were reserved for the construction, noe Pursundiso scontsect of the little city of Vibboux found means to erect a n succe traitment of their attention of their to mantany rooms, with testini set and districtly consists, set initial for a conmederate sum: for one notes that the front and party valle al -fee than call about an deep stock and others to be an example le and on the middle half tinber partifice. A structure of i soniverg end the dead how being a style end of the kind by negotial had didney that the real parties and had been present

come to the amount of \$2,450. Now we can see the sericialization

or changed today. One of them, dating from the second half of the 13 th century, presented in plan the following arrangement (14) of the ground story.

At A beneath the enclosure of the stairs, as in the preceding example, is the entrance door. The door to the cellar opens on the street at B. Having passed th entrance door, one passes into the little vestibule C: from thence directly into the kitchen D and to the left into the hall. The same arrangement is repeated in the second story and gives two chambers: then in the third beneath the roof is a great room divided in two in the depth of the building. The elevation (15) shows at A the entrance door, and at B is that of the cellar. The enclosure of the stairs is no longer supported on the auds of t the steps, but on a well jointed rampant platband. At the top the enclosure of the stairs passes from the cylindrical to t the hexagonal form, so as to facilitate the covering by wooden tiles. An internal court, or rather a planted garden behind the house, gives air aud light to the kitchen and the rear pa part of the hall. The building next the garden as enclosed by half timber work (see plan). Profiting by the projection given by the corbelled stairs, and by a corbel vertically over the pier of the left party wall, the architect has placed a projecting unequal truss to shelter the entire facade (see elevation). Water running in the partly wall gutter is thrown to the left on the street by a wooden gargoyle, and to the right into the court by a wooden duct emptying into a small stone reservoir placed in the corner of the kitchen: In the ground and second stories are fireplaces arranged in the party wall, and chimneys with caps are visible in the elevation. Thus on an area of about 1076 sq. ft., and of which 160.8 sq. ft. were reserved for the construction, the Burgundian architect of the little city of Vitteaux found means to erect a h house capable of lodging properly a family in sanitary rooms, well lighted and sufficiently spacious, evidently for a very moderate sum; for one notes that the front and party walls alalone are of masonry; the floors rest on these two party walls and on the middle half timber partition. A structure of this kind of the style adopted would cost in the province, i including the cellar, \$4.65 per sq. ft. the house would then come to the amount of \$2,450. Now we can see the structures

ha no resort an the little cities of the decertaging ayes of once little arting they made mire, and loss appliants and convenient, but also they are remarkably usly, although say entervor to reserble the freet nones of a sitises to -morrie to amater til triciales let write feet littler est - and the ball about absolutered from units of contact belief FUL BY THE INTERPORT OF THE ADD LABOR ADDRESS OF STREET STREET withouthe the nexten of benist time to exceed against the -qui und ai staiblied feebom seeds ni emates bas assasiq seel peach of terrelate cline's net be eleved bes eleves and be dain The electric of the recentaries of assertation, the address. end seitle and denny dain, yes as sel fore bas Ifrie and for A THE REST RESIDENCE AND THE PROPERTY OF THE P sedia tring taking sies could risted the fall believed .... Lits Present, in costs we ware different for sectionalizations and an obesit of the contract the state of the state the state of of the Valvac, making the states of the valvace valvace and in means therefore a furnition is next intuition one la sent tenes bea ad alleger archieffed a real of triallers and although the with a minut man of the contract of the contract of the contract of ale atto tes tes testestes, distant factori, testaland . . neionshoes bas

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daily erected in the little cities of the departments; on an area of such little extent they cost more, are less sanitary and convenient, but also they are remarkably ugly, although they endeavor to resemble the great house of a citizen of t the nearest great city. Not entirely the richness of ornamentation pleases in these civil structures, since they are generally without sculpture until the 15 th century; nor is it t that common symmetry so much prized by modern city officials. What pleases and charms in those modest buildings is the imprint of the needs and habits of the family sheltered by them: the sincerity of the procedures of construction, the unexpected, the skill and mind, let us say, with which the artist has known how to profit by all the conditions of the given programme. Assuming that our modern cities were buried under ashes like Pompeii, it would be very difficult for archaeologists, that discover them two thousand years hence, to obtain an idea of the tastes, manners and habits of the generation that erec ted them; but if one enters today a tolerably preserved house of the middle ages, everything in those habitations recalls to as the mode of life of their occupants. There one feels a people with its own character, distinct tastes, its traditions and tendencies.

Farther, the mansion of the lord and even the house of the citizen. that has become an important personage in the city, are distinguished from the dwelling of the citizen, merchant or manufacturer in a striking manner. If the citizen places his facade on the street and tends to live on the street, on the contrary the noble erects his mansion behind and between a court and garden; on the public street he places an enclosing wall or offices. Just as the house of the simple citizen resembles a lantern, so much that of the lord or of a man become a great personage is closed to the eyes of the passer. We have seen somewhere that the marquise of Rambouillet was the first in Paris to have the idea of building for herself a mansion between a court and garden, that is one of those errors like so many others insistently propagated to make it believed, that the 17 th century did everything, and that before that epoch was nothing but darkness and barbarism. First Tallement des Reaux, who alone among contemporaries of the m margnise speaks of the care, that she took in the construction

of ner measion, says not a work of this, and ned he a if it. the madelons existing auch before, that sepan sout have diven AND THE REPORTED THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE est, resteables, buston, france, best, best, or free, or with, were and stall are totable a court and farler, to act a -arona is east to a city to recognize the meditalians of important ARE AN ARTICA THE FOIL ARRESTED TO BRIDE ROLL OF THE ADDRESS THE -nco ent le samed contratalionitae a ben seviesment savatale A DE RESERVE DE SERVE DESERVES SELECT DE RESERVES DE RESERVE recolograte and openerous outs last bearship, belong the Preims or Trayes, to not resemble those of a dity inners, AN ADDRESS OF CHARGOS STATE OF STREET, OR ADDRESS OF CHARGOS SE frain. wines or coner products. If one nouse of a civizen of and besevele to yaota baucas ent an asuc at asyour to salene contico, for stately, to miles the partraume to tierast laure all there is the service of the service of the service of and arrest topon and in allere beauty arrests and to poster to . It was the second of the sec to the common and there were the common to the term tae 13 tu century.

Then the seed account to the firm to that we can be the term We do not a serie of the series and the second of the second of the and terminate at 4 20% bucks are trained as a second as - n along the common of the second to a second of the and as is a remarkable who is not select the second contract A HOT BOD IN TO BUILD AND THE STORY OF THE TO THE TO THE TOTAL THE FIRST STORY OF THE TOTAL THE FIRST STORY OF THE TOTAL THE T strained to coccated, not les toutiels at the size state of -m2 Jist to control billerseal sears will in threathe line ale sa pocuent of series shearers, revise a securious a to The life of the and the country of the country o by openings and arthout any decoration, arthough country orwestdres in construction, limiting it to that serictly accessery, LE IN CASE ON ARE OF A VERY LITERAL MODERN SOCIAL SOCIETY, THE The course of wire of the sec sat the course to water to the and internal to seems then for a local terrors of the and and the angreeign a commission of the commission of the angreeign and the ministrate and density of the state of the state of the state of the - motor whereast total collected continues, or something and the are to the fashion, is not at all a work of art. The middle NAME OF TAXABLE OF TAXOCASIA OF REL. DAY CONTROL WAS NOT

of her mansion, says not a word of this, and had he said it, the mansions existing much before that epoch would have given him the most complete contradiction. Indaad the mansions of S. Pol. Tournelles, Bourbon, Tremoille, Sens, Guise, op Cluny at Paris, were and still are between a court and garden. It would then be easy in a city to recognize the habitations of important personages from those of citizens. But the houses of the citizens themselves had a particular stamp because of the condition or position of those inhabiting them. The houses of a manufacturing and commercial city like Beauvais. Amiens or Rheims or Troyes, do not resemble those of a dity inhabited by landed proprietors living on their incomes, on commerce in grain, wines or other products. If the house of a citizen of Rheims or Troyes is open in the ground story or elevated on a portico. for example, to allow the merchants to discuss their affairs, that of Provins or of taon, for example, is carefully walled on the street to the height of the second story. Fig. 16 reproduces the facade of one of those houses of Provins. looking on Rue de Paris, and dating from the second half of the 13 th century.

Here the inhabitant shuts himself up; the outside has nothing to do with that passes inside. The hall is in the second story as well as the chambers. The ground story is reserved for the offices, provisions and kitchen. The stories are high between floors' one feels that in these habitations life is simple and broad. Further, one will observe with what care the c construction is executed, how the openings of the windows are well relieved by those stone discharging arches: how that facade is composed of so few elements, yet it takes a monumental character. To know how to put art into a rubble wall pierced by openings and without any decoration, without costly proced ures in construction, limiting it to that strictly necessary, is in that the mark of a very advanced social condition, from the point of view of art, and can we say as much of our city? We are not ignorant that for a great number of persons today, art is only an expansion of luxury, a superfluity, and that in the matter of architecture the facade not faced by columns or pilasters, by mouldings collected nearly everywhere according to the fashion, is not at all a work of art. The middle ages letf few books or discourses on art, but whoever was an

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manufact come group attenues the secular bitter little soand the cold the second of the second to the The second that and the state line state and any other The colour and and braily that it, which a the case of the ANTHORES THERE IN HE WAS AS AT AN INCHASE MONEY OF PERSONS vitage like a sign of the same that the same a confidence of Art life to build and and in the life and the feronocc The second state to a core five to appear all the to no account to the country, the day of the free dealers and the second of the first of the second of seall. The old nouses that still cover dur old Trenon outless a few years stack, and black for track double to Stationary wemed is uninto you at of which to boost being also same will -versions and to immediated out allow allow and to long the of the wifite olement, him towns and be wrongered wenn AT VALUE ASSESSMENT OF THE STORE OF THE PARTY OF THE PART and whive since a to alculated such sensionals adapted to - Per land the state of the same of the commence of the same source out no, being the end rion found about, and where I Local course and it and a reserve the course of the course course and story term bris too recreasing worse the east rite soletions of some course, original, loctori, fries and stanger allow, The state of the state of the state of the second transfer of the second of enione a raine were detailed on ended once has been and CAPACACA ENVIRONS DA SERVINO SERVINOS SERVINOS ACADAS ASSOCIA CONTRACA DE SERVINO CONTRACA DE SERVINO SERVINO

artist knew how to put art on the richest facade and on the w wall of the humble dwelling of the citizen of a little city; he knew how to love and respect that art in its modest expressions as in its splendid conceptions. An age that no longer believes itself able to manifest its taste for art except by accumulating ornaments, or by spending enormous sums, but which in works of every day forgets its elementary principles, passes from one type to another, no longer possesses originality, and that century tends to the decimbe of the arts. When an epoch has descended to this inferior level in the history of the arts, the execution is gradually impoverished; no longer employed except for pritileged works, it retires from the extremities to concentrate its last efforts on some points; barbarism daily gains more area.

wen still build palaces and monuments where every richness is piled without order or reason; but the habitations, the d edifices of the small city, are no more than coarse works, r ridiculous and uniformly vulgar, whose defects in construction promptly do them justice. It is the only remaining consolation in the midst of those wretched things, to minds sufficiently occupied with art matters, to believe that posterity will yet judge somewhat of civilizations by their monuments. When art is no longer a matter of luxury, the day of its proscription is near. In the middle ages the vital power of art is manifested everywhere; its expression is a need for all, great and small. The old houses that still cover our old French cities a few years since, and that new needs cause to disappear rapidly, were the living proof of this. We do not claim, at the cost of the public health with the development of the prosperity of the middle classes, that there must be preserved even the rotten hovels; but we should love to find again today in our private structures those instincts of a people loving the arts and knowing how to propagate everywhere their true expressions. But no, this old and rich Gaulish blood, that after 1 long compression could circulate freely in the 13 th century, carry life into the provinces, cover the soil with edifices of every nature, original, logical, frank and without alloy, the true enclosures of the nation full of brilliant qualities; this limpid and pure blood has coagulated anew under a second foreign invasion. It has been necessary again to become Romans,

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and yet under what Romans! Symmetry must refplace logic, and pallid imitation of a dead art is substituted for the native originality of our country. False doctrine persistently taught has taken root in every mind, and infatuation for a showy art that none understands or explains, because it cannot be explained before minds naturally clear and logical, has replaced that innate taste for that true art formed for us, and in the midst of which we feel ourselves at home.

The house of the middle ages in France is the habitation of a man born on the soil. The house of our time is the common d dwelling, uniformly comfortable; as the life of the merchant, his customs and needs, resembles the life, customs and needs of the soldier; as if the lodging suited for a notary would be adapted to a woman of fashion. That uniformity is inconvenient for us on the whole, and is such that the man devoted to a career todan is compelled to have a house built for himself, if he desires not to daily have to struggle with the w weariness and the difficulties caused by the ordinary lodging. Everyone is ill at ease in the box that he has rented, but p passers see only facades nearly identical, and which would have already caused us to die of melancholy, if in our country we could fall under the power of that malady!

Note 1.p.246. It is necessary to be truthful; excess in France soon leads to reaction, and everything leads one to believe that the orgies of symmetry to which men have been left since the beginning of the (19 th) century, and particularly for some years, will lead to a universal revolt against this barbarous fashion of understanding the art of architecture.

But (and that is a motive to not despair of the future) it is no in our time that men have attempted first to mould, let us say, the inhabitants of a city into regular divisions, aligned and identical. The lords of the middle ages did not understand much better than our modern municipal officials questions of art, but which has not prevented the nation from possessing its art. Notably the English do not seem at that time to have fathomed Frence genius; and in their condition of foreigners, we cannot wish them to have done so:- "In the second half of the 13 th century, a time of peace and prosperity," says M. Felix de Verneilh, " a little corner of one of our provinces was rapidly covered by those new cities called

del wither selling to the land of the leader "entire! "entire! da sus by weak directances Alonouss de Poissers, brokher of the least of the suppose by the property of the suppose of the counts of Toulouse the nominal lord of a part of Pulsance." Donner widesered use or this trees that the city as so a siste, he claimed to ensure his direct authority by passing the building of a capital. Villefranche de Roupréne. "in Spenors no founded Villeneuve d'Afen and several less importathe same that the beauty of the beauty the same the same of no also founded bastines." These cities or bastifes mere buio neighborness freely, seconding to the recommendation of AND DATE ADDRESS OF THE SECOND STREET, BY ASSESSED SEED FOR - many of attaceting to a direct denergance on the govern safety and to chico of colorated acres and to-it or will be in prompts of to applientmenters of the stroit filtral and to are we sania .I basala" . alienaev eb. .W seculianco ". Jasq ... de" daks and soon as king, arciely multiplied foundations of the t SDOUGH CARDS THEM TO RELEASE AND NOT THE THE PARTIES. The Property of the Color of th saus bailt for the account of the kind of Angland in 1272: bereat Jean la la cault compenent to his man donain law bastide of La Linda. The city of Vortostier was built about 1234. need some for each FFI as grand released to as to said wow onwhere. Like all class of cities of tust epoca, traced in will bling out of the six of the street, the court of the cont alle perfort regularity, het. Allementet, 719, 19, 200 al interest set for uniformly found to see senses its and the season to the size of bosess in the state of tenness ones and a accomplished accomply distributed the last city second [7] and builty covering the contact of hearth is emisted at the it's Vacoleon-Ventes and certain cities of Alderia, is only es asm di competern with that absolute sympetry. It mass et minimized lating would been so broad, that all not needline in Light mediate conditions of the a passent and the benefitted and noverethe, save all me a need of constituty sections that mare, - HIS TO ANNATIONS WANT OF TWO STREET PART LINE AND ALLES course, of function and orems imposed, summe those sities seem calls of the spart, and missing a coars of the state of the .norroussence sinds nests vistode vsinegeong evi

"bastides" (walled towns) in the language of the South. Let us see by what circumstances Alphonse de Poitiers, brother of S. Louis, had become by his marriage with the heiress of the counts of Toulouse the nominal lord of a part of Guienne." As such and although that sovereignty was frequently reduced to a title, he claimed to ensure his direct authority by causing the building of a capital. Villefranche de Rouergue. "In Agenois he founded Villeneuve d'Agen and several less important market towns. In Perigord, where he had some possessions. he also founded bastides." Those cities or bastides were built on lands granted freely, according to the recommendation o of the engineers, and enjoyed extensive franchises. This was one means of attracting to a direct dependence on the sovereian entire peoples; the means succeeded in spite of the protests of the fendal lords and the excommunications of the bishops. "On his part." continues M. de Verneilh. "Edward I. first as duke and soon as king, greatly multiplied foundations of tha t kind; and this is one of the best titles of that great prince to the grateful memory of the old duchy of Guienne. Among others, Libourne owes to him its existence (1286)." Beaumont was thus built for the account of the king of England in 1272: Marshal Jean de la Lande commenced on his own domain the bastide of La Linde. The city of Montpazier was built about 1284. Now that plan of Montpazier drawn in 1284 has not since been changed. Like all plans of cities of that epoch, traced in Gaienne and Perigord, the city of Montpazier is not only aligned with perfect regularity. (Art. Alignement, Fig. 1), but also all houses are of equal dimensions and are arranged in the same manner. A block of houses of the city of Montpazier (17) shows with what cellular uniformity those habitations a are built. Certainly the regularity observed in modern cities. like Napoleon-Vendee and certain cities of Algeria, is only disorder in comparison with that absolute symmetry. It must be admitted (which would then be true), that all men settling in those privileged walled towns, a sort of refuges offered by a sovereign, were all on a basis of equality; whatever they were, it is certain that they submitted to these conditions of alignement, of facades and areas imposed, since those cities were built at one spurt, and attained a degree of very high relative prosperity shortly after their construction.

Note 2.p.222. See Annoles archaeologiaues. Vol. VI. p.71. Few orchoeologiaues have etudies so complets and rich, os m. Felix de Verneilh has done in what concerns the cities of the middle ages in particular.

Thus one recognizes that these iness, which we orlieved belonged to our own epoch, of workman's civies, of centres of . Haire alefacts it successful to this installing to the lance ty, are not new, and test the middle ages attained ineresn a practical point, from maich we are still very instant. But - E II (and I set the little that the state of the set the lation to the needs and habits of the epope. They all consist of V Joseph Party, a 1800 we mentaless a light story legit D my 90 to a rest that has a constant same of a large of the same and salls and salls. The sames of the olds them, at the all and an old the old the styroughed by very size coefficient ion was section at the state-NEW ASSESSMENT AND THE CHECKE STORES TO AND THE PROPERTY AND A fencenter viluterse sweet believ seems to ensig end because a to make out to smith in not sorne alerta out aniven con of the last of the contract of the state of a ol vileyment al aperco A cooken to hapfa by the de you due - enve on it is a part of the least to each a deat and control of the was not to sidle as this and at, it is older the side of the incorvenience auc' taose teasinied intro. To establish offculation along the sites of a square and leave the milile withare included and to second one need avents and notal gorto the of the cities of the middle ates. Out-off angles arranged at the source returns of the corner nouses permit wathout to entnelo end (21) dresoro er avet deviat no villas ensure end to water out first had "gentranted to men out to seasons had to -decise that the manual trail of the term of the term of the nt A of the plan. See see, in that Wid. bow the anties of the - no Mo-sic plin and sweet Scilliant of the Interest Age opening

ies, that afford entrance discoully to the squere.

Tist JJo sont esitragary the related house of their source of this source still and the source of there exists a portico; this is an exception to the rule.

esnaura are built of stone, brick or rubcle: wooden construction

xote 2.p.246. See Annoles archaeologiques. Vol. VI. p.71. Pew orchaeologists have made in our time studies so complete and rich, as y. Felix de Verneilh has done in what concerns the cities of the middle ages in particular.

Thus one recognizes that these ideas, which we believef belonged to our own epoch. of workmen's cities, of centres of population established with an appearance of absolute equality, are not new, and that the middle ages attained therein a practical point, from which we are still very distant. But however modest are those habitations, they are at least in relation to the needs and habits of the epoch. They all consist of a ground story, a second and sometimes a third story; their facades vary in appearance, because the tastes and fortune of each one; further they are well built and solid. The square of the city alone, at one side of which is the city hall, is surrounded by very wide porticos. low and ending at the stairs affording entrance to that square: for the engineers that traced the plans of those walled towns carefully refrained f from having the streets pierce the middles of the sides of t that square, which would have conformed to academic rules, b but not at all to those of reason. A square is generally in a city an area more or less large where men gather; if two streets out the middle at right angles, it is clear that passers inconvenience muc: those remaining there. To establish circulation along the sides of a square and leave the middle without circulation has always been the purpose of the founders of the cities of the middle ages. Gut-off angles arranged at the square returns of the corner houses permit wagons to enter the square easily on market days. We present (18) the plan of one quarter of the town of wontpazier, 1 and (19) the perspective view of one entrance to that place taken from the point A of the plan. One sees in that Fig. how the angles of the houses are supported by corbelling above the wide cut-off angles, that afford entrance diagonally to the square.

Note 1.p.248. At Montparier the properties have all their side walls. This arrangement is even retained around the square, where there exists a portico; this is an exception to t the rule.

The houses of those walled towns of the end of the 13 th c centurw are built of stone, brick or rubble; wooden construction

FOR STREET PARTY SERVICES AND ADDRESS OF THE PARTY SERVICES AND ADDRESS OF rare in the southern provinces, while from the son of the 14 AL TERMS DED TARREST ACCUSED NOW AND THE PARTIES AND estimate depres and place of the first at anyther medians are -the Lorent out note and , then there this to with the Just the of PC and tarned without most process at tribbet while the Man cofference of the Jo to contact of the last termina want viscissiff and construction, but frequently the as even cathraly of wood like large farmiture, without may visited trace of contract the title that he grave visited at the circulater along relative for wooden excurated, hemcacificants and to anisona assets on bedrain administration and STREET OF STATES CONTRACTOR OF STATES OF STREET, CO. Ha that here had , cotains to informing entiremittee meter promises agent and he esites accioes out to blank that a erossely so called, to employ that mothed.

As we have stated, in them erest dities of the horse, such es Paris, Rouen, Resavais, Amiens, Proves, caen, etc., the s condro was rare. These cities were surrounded by wells and o BY RIPH BY BURNEY BAR BARE TREET THE BY BY CHARLE AND WHITE nerth as learning to the city, and they inferred as that TO REPORT OF TRANSPORT AND ADDRESS OF THE PERSON OF and a Aire is a real confidence and the latter than the latter of the la to these arradements iduated by accessity. Men then think it The provinces and the provinces the appealant and heaterstone to ene roofs, wasther the eave or capie wall was print on the and the new tentes appears allerted agreed and already C with he elts held dumile sandator when he teacht exaces. and depth saile, not bee abelies day and the relation of wast lider possible. It is the sablest, as not been allest sheddynakin ters. It has been san an bear reason, ate to live which did not be true to be received at the state of the s -ers tendings not bead to the branch to dak har fi prethe poster visiteles sected to Enthely one entack technic all such a later of case, and taken to seem and the property of the once once free two one or over and all ordenial co provided the second second second and the second second second lies a desel de seas est teachely sensy aven us named design seel Friedel. Take toote orthods on as alkare left, Lodgeter PRODUCTION AND RESTAURANT SOURCE AND SERVER SECURIOR FOR

is excluded from the facades. Further, wooden houses are very rare in the southern provinces, while from the end of the 13 th century we see that they gradually become more common in Ane northern provinces. At first it is only the upper stories that are built of half timber work, then soon the ground story alone remains in stone; theu finally during the 15 th and the beginning of the 16 th centuries, entire facades are not only erected in half timber construction, but frequently they are even entirely of wood like large furniture, without any visible trace of masonry. Besides the taste that the peoples of the north have always retained for wooden structures, besides the enfluence exerted on those peoples by the traditions brought by southern invasions, the vicinity of great forests. wooden construction presented advantages, that must lead all inhabitants of the populous cities of the French provinces, properly so called, to employ this method.

As we have stated, in those great cities of the north, such as Paris, Rouen, Beauvais, Amiens, Troyes, caen, etc., the s square was rare. These cities were surrounded by walls and c could not extend as in our days: then men sought to gain in height the area lacking in plan, and they infringed as much as possible on the space of the public street by means of corbelled stories, now wooden construction lent itself alone to these arrangements imposed by necessity. Men then thought of sheltering the surfaces of facades by the projection of the roofs, whether the eave or gable wall was built on the street. The streets gradually became narrower as the cities became richer and more populous without baing able to move o out their walls, and the windows were enlarged to admit the most light possible. But on that subject, we must place an o observation here. In our time, and not without reason, men a aim to light abundantly the interiors of rooms of a habitation: it was not so during the middle ages. The earliest Romanesque houses are pierced by windows relatively narrow and allow little light to pass, the inhabitants seeking obscurity in interiors with as much care as men seek light; there were still traces of an antique tradition. In the 13 th century, houses began to have wides windows; one sees at least a hall well lighted. This taste extends as an active life, industry and commerce assume more importance among the urban population. The interest of the 13 th sentary.

To sealer of hear constant of the faceles of the season and -cathod at made totals walle by king the profession to a little and al by comme with constraints and the contract to be I came and one ever year deciders at the planterer at the For example, the silk workers of Lyons work on the orst delicase factice in rock in waten one would scored orieve the ne could read. Fight accustons itself to obscuring, and the -eve containi an Just light laicilitas to lateten evisceens rywhere today, is not an acsolute requirement for latering on vocas of steat delicacy. However thet men he, from those workshops of the middle sees, that seem so fark to as today, came works of woldsmiths, embroideries and fabrics, when with all the light that we have, we attend when delicest with difficulty. These are only questions of hades, and of mant a northan is accustousd to from infance, to work under a doubtest l light, it does not follow that this worksen in unskilled. So that when our fitners saw the Giá of Cornelle played by the on and probablishes in Versemann at it was not the presisted lade vivily tou masterousee of one tridic poes. Or Date for all, let us leave there those reprospes dens to the arctiteous of the houses of the middle ales for naving mure dark and uninhabitable hovels; gloomy and uninhabitable for as mayoe, but the ordizers of that time found them commodicas and sufficiently lighted. That was indecedent of the ouestion of art; the frester or lesses erentwothered and itse for Proade of the nouse doss not isseed on the greater or lesser So Anero size even all ashares to believe out the title VERY PROPERTY.

wood, that we drew at Charosadua in 1741. The ground and second rear wall on the court is also of stone. In the ground secry that post and wall pier 8. A main girder reass on a corpel of

All conditions had need of the light of day to devote themselves to their occupations. The house was no longer the closed refuge of the family, it was also the workshop! thus in the industrial cities the houses were widely opened on the street from the end of the 13 th century.

In spite of the opening of the facades of tha epoch, one scarcely conceives today, how in those marrow streets bordered by houses with overhanging stories, certain industries could be exercised: that is explained only when one has seen, f for example, the silk workers of Lyons work on the most delicate fabrics in rooms in which one would scarcely believe that he could read. Sight accustoms itself to obscurity, and the excessive natural or artificial light, that we introduce everywhere today, is not an absolute requirement for laboring on works of great delicacy. However that may be, from those workshops of the middle ages, that seem so dark to us today, came works of woldsmiths, embroideries and fabrics, when with all the light that we have, we attain their delicacy with difficulty. These are only questions of habit, and of what a workean is accustomed to from infancy, to work under a doubtful 1 light, it does not follow that this workman in unskilful. So that when our fathers saw the Cid of Corneille played by the light of cardles, it is unnecessary to conclude that they appreciated less vividly the masterpiece of the tragic poet. On Once for all. let us leave there those reproaches made to the architects of the houses of the middle ages for having made dark and uninhabitable hovels; gloomy and uninhabitable for us maybe, but the citizens of that time found them commodious and sufficiently lighted. That was independent of the question of art; the greater or lesses architectural quality of the facade of the house does not depend on the greater or lesser width of the street on which it stands. We have the proof of this every day.

Here (20) is one of those houses built of masonry and of w wood, that we drew at Chateaudun in 1841. The ground and second stories are built of stone, the party walls of rubble; the re rear wall on the court is also of stone. In the ground story (see plan A) opens on the street a vast storehouse with a central post and wall pier B. A main girder rests on a corbel of the pier of the middle of the facade, on the central post and

THE REST TO THE PARTY OF THE PROPERTY OF THE PARTY OF THE PARTY. in fact the faccas and or adequate small states and villalities a THE E STATE AND DAYS ASSESSED AND DISCOUNT OFFI ASSESSED AND into the rear hall 8. On the second story the arrandament is minime, super last the divide sames threat has from call the rednives him thereass of the openetry, we obtain his mint surgivity light from the street, has constructed and turned to be and the graph graph, by the property of the brack countries and present angle sout they feater the easter thicks which they the argular areas ever part to avid at the west in contact of which there is a transfer of the control of the first that The model to the end on the rest set they washing outstood to participation of the second of the contract to allegate carrie with the conference and all all a firef and the AS THE PROPERTY OF REAL PROPERTY AND ASSESSMENT OF THE PROPERTY OF THE PROPERT roof every is see set on servelling.

a face to smoot a to somewhat her safe can save it it all of a little later ecoca, bu in which the wood construction simples not apportant and in largerial from record from record and -mi prove a briven deeste on a contract of the second entract direction to tirized for two forthers, our since of the surthe surger specifical and as pointed and of the single state of the the court and the cold to be to the cold the levery entary (fall and share the or delicated out in tel 4 de and an extend occify and to meaned only process income a line tracks level C'. As indicated by the plan P. esch occupent has his stairs ascerding from the smop to the second story, A net pederages ensual and lo six sat no becalg activition remaid the try sabilities from the day of nations who had their the n end ic speld out thought about the places ont ic theni THE REST OF REAL PROPERTY AND PERSONS ASSESSED TO SECURE OF THE PARTY AND PERSONS ASSESSED. ms corpelled out (Art. Pau de Rois). Tais half timber mork of a loos end le servi base end by the next trade in vices and set on the eits of the plates &. The fruit corner posts ere CONSTRUCTION OF THE PARTY SHOULD THE PARTY OF THE PARTY OF wilder to siles some out with times represent this dated out sauporting direplaces. Pers the masonry of the facale states at the naidat of the droind story of the left habitation, ini terro for the tient came | on held texture from as on the

on the head of this wall pier: it receives the floor beams. A partially open screw stairs ascends to the second and third stories. From the corridor C one passes into the court D and into the rear hall B. On the second story the arrangement is similar, except that the girder passes through the front wall and receives the tiebeams of the carpentry. To obtain the most possible light from the street, the constructor has turned two discharging arches in the thickness of the front wall, and beneath these arches he has set actual very open stone sashes. The story of the roof is divided into two rooms in depth of the building. One notes that a carpentry truss projects on t the front wall so as the properly shelter it. That truss rests on the ends of plates held by ties and on the end of the axial girder also held by ties. The beams of the floors are set at the levels G and H. The construction of this house belongs to the beginning of the 14 th century. But in this example the roof story is not set on corbelling.

Fig. 21 gives the plan and elevation of a house of Laval a of a little later epoch, but in which the wood construction assumes more importance and is lorbelled from the ground story. This house, whose facade rises on a street having a strong inclination, is divided for two families. The slope of the street has permitted the constructor to give a lower eutrance f for the occupant at the left, the beams of the floors being at B and C: the occupant on the right has only a high ground story and a second story, the beams of the floor being at the level C'. As indicated by the plan P, each occupant has his stairs ascending from the shop to the second story. A half t timber partition placed on the axis of the facade separates the two habitations from the top to bottom. The half timber f front of the second story projects beyond the plane of the h half timber front of the ground story, and rests on these beams corpelled out (Art. Pan de Rois). This half timber work of the second story is sheltered by the head truss of the roof s set on the ends of the plates S. The front corner posts are there only to maintain the half timber frace next the street, for behind these corner posts rise the part walls of rubble supporting fireplaces. Here the masonry of the facade stops at the height of the ground story of the left habitation, and lower for the right one. The half timber frame, as on the preThe state of the second indicates the second of the second AND OF SELECT CARRESTS, SELECT FIRE TO BE AND SECRET OF THE FIRE TO SELECT THE FIRE THE PROPERTY OF THE PROPER The state of the s I to drace repellants out to entire has self table to enter s sure a past in the sea to section and the Amount unions and animal of the princips of anthony of the state of the same THE PARTY OF THE P -this is the filter and all few bounds to be a company to the company of the comp I to restau est date implosed the sterlings of the colon that from and the control of th tering and coloring to company their states attacked to the tering to th to promise to wear the second of the second to the second to treed, strates like the fir of the Josepa, lara and Alpa. W it be indeed difficult to onle horizontally oak crauke, that regarre leaden and troublecome angaring, on the contrary mother ing is seerer than to place on each other tranks of fir, nataraly stratege and easily speared. In one provinces Thet and even in those of the Centre, forests beind soundant and numerous in the middle sees; notedly on the apper Loirs. the Lores and Ardesne, part of socient byonnais, the mannester not need, Your translation old sain separate of services formats or Legist by feeled lass. True to mak years to find a till a - brane until to escapitate passed entities and the security excel in passive process to also others and at the colonial to access and/defices 210 ands to: somis state face fareirs lifts we minorale to commend the sure of makers of a second cold the sure and con lo slied ylerisse secule seinesee as at the as at an and a very real los , builds brief parties and the real same a the fires of the 16 th century. We give (22) one of these.

preceding example, is let into masonry between the posts, discharged and staggered.

These two examples already show with what freedom the architects of houses employed these simple and sensible methods that they had to follow; profiting by the arrangement of the localities, the slopes, the quality of the materials, satisfying the given programmes without adhering to conventional forms, but still observing scrapulously the principles of solid and durable construction. It was indeed necessary for those principles to be good, that habitations erected by the aid of such simple and inexpensive means could endure for five centuries.

At the time when half timber corbelled frames seem to prevail for urban habitations, this mode is not subject to the s same system of construction in all provinces composing the F France of today. Wise and choice in the provinces north of t the Loire, toward those of the gentre and East it retains a primitive appearance. For example, in Bresse the wooden houses of the 14 th and 15 th centuries possess half timber frames in which the system of horizontal timbers, still used in Switzerland today, is apparent and combined with the system of f framed carpentry. This system of horizontally piling beams, besides belonging to certain peoples, whose ethnic character is recognizable, is also caused by the abundance of resinous trees, straight like the fir of the Vosges, Jura and Alps. If it be indeed difficult to pile horizontally oak trunks, that require length and troublesome squaring, on the contrary nothing is easier than to place on each other trunks of fir, naturally straight and easily squared. In the provinces of the East and even in those of the Centre, forests being abundant and numerous in the middle ages; notably on the upper Loire, the Loire and Ardeche, part of ancient Lyonnais, the mountains now arid, four centuries ago were covered by secular forests protected by feudal laws. Thus it is not rare to find still o in those provinces old wooden houses, evidences of the abundance of that material. In the little city of Annonay exists, or still existed some years since (for those old habitations disappear like leaves in autumn), a small number of houses of the 14 th and 15 th centuries almost entirely built of wood, whose construction merits being studied, and that have escaped the fires of the 16 th century. We give (22) one of these,

which we classify smood the noises of the it to century. to a strong sainty to the strang blacks of attendance of when series in the thought his black on the sires and a The set alsolves as beant of as to hear at the property of sincer frame of the second story, composed an front of three saparposed sills and jointed, on which stand the verticals. les caract poots reteire has mide of share wills, de the nitas a prince and assert and think will colors and worther, finder a mark waller to the title talk talk than a real or a state to a second -un fiction flore restant a titel a water of like lettoric, nuwhat is a root crainaties and as the attent, asses engage notice is sufficiently explained by our Fig. The projection to the real free the "on a line wall of the real line was to about 11.5 ft.; thus the facade is perfectly enettered from A self sandrappoon and post recifefiant stade trees for the the dilutes of the section, and to assess the provide up -spon reform to area sing gent extended of vase at al . retnim named the to disse ballets about all the de des at an at an Trees are alflered traditions are delicing assis. The city aren der beigf eine bestatet einenet in bericht auf ic ein officient and the standard as a standard to head on the standard of in this pollules were and enth collected and described will de-of the inabbitants in white. Secouse in the middle ages, chavever may be said by the detractors from that enough the Remark on matrix laware daily all on Manage dails due tilt away color is belified the base, to the cripered titled to the said and the single has been and aller he was the aurost reduiations are established to protect common interes-AND A PARTIES AND REAL AND ADDRESS AND ADDRESS AND ADDRESS AND -sii a ang lesa formaeeine, bas each catacan though a ii a we and sauce of the general interact and desired to ensure the an -ALIPHO AN AUGUST DO MATERIAL THE AND AND AND AN ANALYSIS ular interests admened to by all the incubitants of the cons sails as some intelligent, then sould be the most corniers and peer excepted regulations. From the poles of view of art. the result is onlie intercating otherwise. It is in that like one vace compared with public conning. If the latter be redular and oeshaps more efficient, the former is more feileste and intelligent, out we do not have to occupy ourselves with toat

which we classify among the nouses of the 14 th century.

On a ground story built of great blocks of stone is placed a deep series of fir timbers, the third row forming a floor and projecting in fronh so as to carry as corbels the half timber frame of the second story, composed an front of three superposed sills and jointed, on which stand the verticals. Two corner posts receive the ends of those sills. At the sides i ordinary half timber work filled wit rubble and mortar, forming party walls. On this first half timber frame a second corbelled floor receives a third story of like framework, surmounted by a roof projecting much on the street, whose construction is sufficiently explained by our Fig. The projection of the roof from the face of the wall of the ground story is about 11.5 ft.; thus the facade is perfectly sheltered from rain and snow; these habitations were then appropriate for t the climate of that province, hot in summer and very rough in winter. It is easy to recognize that this sort of wooden houses do not at all resemble these erected north of the Loire. There are different traditions and different needs. The citizen of the cities of Lyonnais required less light and more efficient shelter. For example, at Annonnay it was desired n not only to protect the facades from the snow squalls, but al also the steep streets, so as to facilitate the circulation of the inhabitants in winter. Because in the middle ages, whatever may be said by the detractors from that epoch, the citizen did not shut himself up in that brutal egoism so general today: in building his house, he also regarded himself as a citizen and built for himself and his city. In our time the street regulations are established to protect common interests. Then the regulation of the streets were certainly less complete and less foreseeing, but each citizen thought a little more of the general interest and desired to ensure the me wellbeing of all. Now that combination of general and particalar interests adhered to by all the inhabitants of the same city is more intelligent, than could be the most complete and best executed regulations. From the point of view of art, the result is quite interesting otherwise. It is in that like private compared with public charity. If the latter be regular and perhaps more efficient, the former is more delicate and intelligent. but we do not have to occupy ourselves with that

sed side of our modern civilization, much seems to MARIET OF THE PERSON AND ADDRESS OF THE PARTY OF THE PART to our donestic arontmosure.

Par constitution of spons of terminal factors in entirely and all perenterized if we accrosed the Alps. At Venten are rill o remarks to dear on other ment off affine to best of the other A secondary alter one california, tout 10 , with Links wast of the Suits natications called chalets. One finds very it traditions to these houses (22). The manner to autob the wine with in binding the singul layers of the bisect to big bill being bid. cary, sae double chases under the roof, beloof energy to the bevolute structures of certain resules, tast only employed week out of the property interested on extraction to there are was to army asserts to radious a surrest warm ours of the or elegate an extension toward out announced the assett that ene north of france. It is necessary to heren to make compl-DE REELFARESHA TE WEALERS LIE ERENT DO REALT APPRIENT ARE THE carationaly at his efformant manying central, less marine the cases that the design and the secretary will their established chitain and the second to the book, which we find ourselfter coday, while Ris Booker -RELIGIOS ESPECATES SESTEMBRISHED AND AREA TO ANALYZING ifecous peoples. For example, in Fofland one cannot missake cast 400 to the current of the 14 to api 15 on centuries. still namerous, have a great analogy to the art of naval c carpentry. The connections of timbers, their relative strong ata, the frequent use of curves, recall constantly the combinstions of the carpentry of vessels; waite at the same appear an the corta of Trance as see employed a method of carpentry. inveiler .coceid-carro afin eradmif feciere Ye beacute vice oy some X-oraces; in the Rase a very hit method, and duich wore or less arems to beload to tais nucleis of the occopie. and personal the couldwarest blance in sport folder, a person, CARRIAGONO 8991 N GAZARO CAR FRED DAL DE CARRO ADDITAD MAIN DAL about her stored be arabase also also alsowers be made . It is not to the control of the co

Note 1.p.237. The construction of the cholets to most interesitng to study, and it is one of those most nearly approaching in Turops the wooden structures of the printing ofes.

Te are very far from believing that the houses of percent

sad side of our modern civilization, which seems to require continual praise to avoid injurious comparisons. Let us return to our domestic architecture.

The construction of houses of horizontal timbers is better characterized if se approach the Alps. At Nantua are still s seen some houses of nearly the same epoch as that of Annonay given above, bu whose construction more nearly approaches t that of the Swiss habitations called chalets. One finds very old traditions in these houses (23). The manner in which the half timber framing of the second story is placed on the masonry, the double plates under the roof, belong entirely to the primitive structures of certain peoples, that only employed the method of carpentry by horizontal timbers, while the form of the front truss forming a shelter of certain parts of the half timber work approaches the framed carpentry so common in the north of France. It is necessary to hasten to make complete and critical study of those old remains of habitations on Gaulish soil, for that study can powerfully aid in classifying the races distributed over the territory. Religious edifices and castles are erected under influences frequently foreign to the soil, where we find ourselves today, while the houses retained till very late the primitive traditions of the indigenous peoples. For example, in England one cannot mistake that all wooden structures of the 14 th and 15 th centuries. still numerous, have a great analogy to the art of paval c carpentry. The connections of timbers, their relative strength, the frequent use of curves, recall constantly the combinations of the carpentry of vessels; while at the same epoch in the morth of France we see employed a method of carpentry. only composed of vertical timbers with cross-pieces, relieved by some X-braces; in the East a very old method, and which more or less seems to belong to this nucleus of the people, t that occupied the entire area between the upper Loire, Saone, the Alps and the Jura; in the West and South, a very restricted system of carpentrw, that only consists of floors and roofs, allowing the mason to erect the front, side and division walls.

Note 1.p.257. The construction of the chalets is most interesting to study, and it is one of those most nearly approaching in Europe the wooden structures of the primitive ages.

We are very far from believing that the houses of certain

things seem sign sign alart describe man affect with a subject -trie taken en anticipalité des attitues de faces alors vice responds adjudantines to essential to essential an en-- manual of the line of the community by the of the of ing the asternation and the contraction of the cont CO SERVICE CONTRACTOR OF THE CONTRACT OF THE C entropy of the second for product to the Y dark to the wested to Programs and Inchesor coordinate of Accountries of Jersey sudjections and terminal authorized for a section of the and his est about and in and tenent them at we coinsider in Easten nation returned in building its nooses to an app. waose principles asá remanad in a latent state. Secular fendalish, far from restriction that covenout, on the contrary seas to seen along it, perising nor persons of supposed to m le eist daroes and le saucose dud , tra le mrel a rel esacs monestic institutions, that as we have sent above, had retain-- MINOC SWEAT WINELS NAT AVENUE WHILE SECURISMY MANUF-OFFICE IN VII TITURNIA TRANSPORTATION OF THE STATE OF spines of anothernium tooling religion dupotiv disciplicati ay account of the effects, dinfular in account of the were oroanced sufferly within neorles continually at work. In the es transcript of the citizen and of the man of the country, as ward of the court was appared to the second of the same tions correct, that observed intim the research to total di la sel teime cilvile succlieve cuit fracifres and inc and if it midterior, terrors that then or terbelogs, sard man To calculate and contact and animal at addocate to unitable There . with the tribute out Indesense Jest , subsit out bevreaking ancistbers say more graceb of sociacidence fla ai or the normality that returned on sooms constitute, and to dereich bisaccitées be Pold medications, Lieb parcenter allest; they opened more and more tas facades of tasir houses, so ma I ATTE OF COMMEN AND ASSESS FRANCISCO AND RESIDENCE AND RESIDENCE AND ADDRESS the life of the obtained to owner. It were easily applicable from this believe, violative a major devolute full really office. I had take tempted of Sequito Stine Persits tempticing and the aublic street, they could near each other and plan torester. IN SEPTEMBER OF THE PARTY OF THE PARTY, CHARGE STREET, AND varies firest a neigh to signiff their similars. This shiplings AND REAL PROPERTY AND ADDRESS OF A PROPERTY OF THE PERSONNEL AND PARTY OF THE PERSON NAMED IN COLUMN TWO ADDRESS O

provinces in the middle ages differed little from those erected by their peoples before the Roman domination, the Romans exerted an influence on the mode of construction of houses only in certain provinces; in Provence, and a small part of Lyonnais, Languedoo, Saintonge, Angoumois, Perigord and a part of Rurgandy. Besides that everywhere traditions dating back to high antiquity were preserved, and about the 14 th century. except in Brovence and Languedoe, occurred a reaction definitely antiroman. from the point of view of the construction of habitations. It would appear that at that epoch the old 🖨 Gaulish nation returned in building its houses to an art. whose principles had remained in a latent state. Secular feudalism. far from restricting that movement, on the contrary seems to have aided it. certainly not because of a particular t taste for a form of art. but because of its secret hate of m monastic institutions, that as we have said above, had retained Eallo-Roman traditions quite purely. The middle ages consists of very different and of frequently opposed elements' it is difficult without entering on long explanations to render ay account of the effects, singular in appearance, that were produced suddenly within peoples continually at work. In the habitation of the citizen and of the man of the country, as much as in the political history, one finds traces of the national movement, that commenced during the reign of S. Louis, and that continued with marvellous activity during the 14 th and 15 th centuries. through that time of invasions, wars and miseries of all sorts. It seems that then the inhabitants of the cities, that possessed the practice of the arts, sought in all constructions to depart from the traditions preserved by the monasteries; they returned to wooden construction, and devoted themselves to bold combinations, that carpentry allows: they opened more and more the facades of their houses, so as to compose the stories of open fronts, that seemed to make t the life of the citizens in common. It necessarily produced from this intimate vicinity a more complete fellowship between the citizens; without being obliged to descend into the p public street, they could hear each other and plan together. In certain streets of the 14 th century, the occupants of the houses formed a cabal by opening their windows. This political need of agreement made necessary my the state of the struggle

412 (1914 Marie 1914 M eriche care des des consendences de deserve es educate on being, eather located with very near fieldless forth beneatherable steedes, and reach rough town at the ridea, leaving at their bases a cassade very easily intercepted. The great THE PERSON NAME AND ADDRESS OF THE PARTY NAMED AND THE PERSONS THE mens and the corplete understanding at a given appear; then dealer of the partition or they be about 16 years of breed -200512 30 Setable Assertablesheet Trails of Management Commit AUGU DE PROPERTE DE PROPE PARE CONVENTION SERVICIONES SELVICIONALES se concentrated arrangements and to that system of ourn fronts; furgues, they occapied less of that so precious land. These avilled belts as a some fr , tengtons of a peners to bear as -free a bez seadiring graines di Fi ed is berinosa has Jaci are telephonester, see had recome industrial and procedure consergomen in wood ned been almost evaluatively adopted. In the cities of the fouth, in which the traditions of the Momen was the last order to was always were on the course - Indiana granto fatari am decima girminia nasta as lesent erly adminst tes clarical feads! power, that had become nearsee for me option the transmitter, domestic mentions. and consider the extension of the control of the neco victor state out the the con particle of the first open cacades, that so be stack, placed all one inhabitenes of the city in contact with each other.

In recolls now the bistons about the end of and if the century were prescounted with the exacterated importance assured by the monastic establishments, which had absorbed for their centit a drea part of the discessed althority on the one named, and being desirous of encroaching on the lay feedal power on the other hand, had an unicostantical attn most of the free can anould become the monument of the cuty, in which the innebiand have their lewestits judden; have the broad so that a colosed power assigned to the above, and lessed that of the lay fords; now that as their desendance of the lay fords; now that as the colosed power assigned to the above, and lessed that extreme arder by the outless, but the first devented as a term extreme arder by the outless, but the first devented

of the citizen class against clerical and secular authority, explains those arrangements of houses, that seem so odd to us today, whose houses with very open facades form impenetrable streets, and which nearly touch at the ridges, leaving at their bases a passage very easily intercepted. The great question for the cith then was concentration, the union of means and the complete understanding at a given moment; then forced to group the houses as much as possible, and to place their inhabitants in direct communication. Facades of carpentry lent themselves much better than those of masonry to those concentrated arrangements and to that system of open fronts; further, they occupied less of that so precious land. These is then no reason to be surprised, if among the urban peoples that had acquired at the 13 th century privileges and a certain independence, who had become industrious and rich, that construction in wood had been almost exclusively adopted. In the cities of the South, in which the traditions of the Roman municipility were never entirely lost, and which had not been forced to react violently against the ferdal power, particularly against the clerical feudal power, that had become heavier for the cities than the lay authority, domestic architecture retained the masonry construction, the arrangement of relatively wider streets, and did not adopt those entirely open facades, that so to speak, placed all the inhabitants of the city in contact with each other.

We have just stated that the clerical feudal power then weighed more heavily on the cities of the North than any other. One recalls now the bishops about the end of the 12 th century were preoccupied with the exaggerated importance assumed by the monastic establishments, which had absorbed for their benefit a grea part of the diocesan authority on the one hand, and being desirous of encroaching on the lay feedal power on the other hand, had an understanding with most of the great cities situated North of the Loire, to erect cathedrals that should become the monument of the city, ind which the inhabitants could assemble at their pleasure, discuss public affairs and have their lawsuits judged: how the bishops thus hoped to destroy the colossel power assigned to the abbeys, and lessen that of the lay lords; now that attempt was at first seconded with extreme ardor by the cities, but partly failed as a res-

ed until the end of the 15 th century.

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to beside and true takes of the roll organization at the -ne ari acl posses so tail of earlier on mean sees sittin eng I al drift allow to Two forth a frame block out about my the one public monusents, the basilicas, under the portions, is the local and the saltiess introduct for source, trunteen, milewas a series of the contract of the death of the mil se sveni sen para litto, sierraso, nilvo cias sinico eni olso of encisat Pone, on which the monuments occary such a g - HUDGO RECTREME A ROSE ASIAN ASIAN ASIA AREA AREA CALIFORNIANO DESCRI gam of Joseph wars to total plaunica arange set planted sold a maken markets introduced a print to make the call of the line which are a constant a constant a manal. To the constant in the middle adea, in cities of the north of France, each fa Yearly lived in the sometimes this explanate or continuous to me of the manufacture of the manufacture of the manufacture of the state of the manufacture of the manu seatle, and the telegraphic seatle that the palment meaning swille stifters, les ortroiels of Pealai Poveruseil would neve then operated to Tale. The character and the sale mosresult of the protest of four barons delegated in 1246 to the king Louis IX, and by the establishment of the royal bailiffs; yet how the citizens formed a more intimate alliance with royalty, that they felt thenceforth the protecting power, abruptly ceased to assist the construction of those immense basilicasl, to struggle against the feudal power of the bishop and conspiers, until then the most extended in the city. That struggle was often sustained by the lay lords and tolerated by the royal authority, when if found therein a means of extendits own authority, had as a result the maintenance in the midst of the people of those cities an incessant fermentation, a and of giving them an idea of its strength, if it remained we united. Hence those habitations so intimately connected and so near, all constructed on nearly the same programme followed until the end of the 15 th century.

Note 1.p.260. Noyon, Senlis, Paris, Bourges, Chartres, Bouen, Sens, Arras, Amiens, Cambrai, Rheims, Laon, Soissons, Beauvais, Auxerre, etc.

Note 2.p.260. Because of this reasoning, "that the Church by virtue of a power that God had given to it, must take cognizance of all that sinned, so as to know whether it should remit or retain, bind or loose." This was certainly an encroschment on the judicial power of lay feudalism in general.

It is abways necessary for us to enter into the customs of the middle ages when we desire to find the reason for its architecture. The Romans spent a great part of their time in t the public monuments, the basilicas, under the porticos, in the baths and the edifices intended for sports, theatres, circuses, amphitheatres, etc. Although in our days the great cities contain many public monuments, still when one looks at the plan of ancient Rome, on which the monuments occupy such a g great comparative area, one asks where such a numeross population lodged; the Romans scarcely lived at home except to eat and sleep (we do not speak of those possessing immense palaces. whose areas occupied a considerable space). On the contrary in the middle ages, in cities of the north of France, each fa family lived in its house; the citizens had no occasion to assemble, and had the cities been sufficiently rich to erect n numerous public edifices, the principle of feudal government would have been opposed to this. The church was the sole monus civies cans to the act of the breach, then when when ordered ity serious dustrates, they began to erect ashiroutions with course satisfaction of those needs; ecourcy, and still more important, the small area occupied by the soline. Everyment slab till the end of the 16 th centary, spentheodive followed and more compositions, but continued to employ Romanesque matter ods. The form alone vas modified. One sees in Surgundy, Lyonales, Simonaid, Peridocd, Advertue and Employed, houses of mate, Simonaid, Peridocd, Advertue and Employed, houses of

ode. Tos form alone vas modified. One sees in Surgundy, Lyonneis, Linougia, Peridosd. Adverson end Empiedoc, houses of
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its borrowed from the Arraducese style of that spoon. (24).

continue till very late in one national, i.e., till the 15 th contary. Sertaid notes of fraves, Solome and Vents, that sere of ected at the beginning of the 12 to century, could pass for Romanescae houses in The-Sa-France and Champagne. One swan yet finds in some of those noticellus particular arrangements, which belonged in France only in the 12 th or beginning of the 12 th century; for example, such are fired easy with flags extended out beneath the front valls shove the second story extended out beneath the front valls shove the second story houses of the city of Traves, than dayes of one of those oil houses of the city of Traves, than dayes from the pertining

of one gable sall on the street.

Act 2. p. 281. Arch. olo.et dom. of Misverdier et cortole.

monument of the city in which the assemblage of citizens was permitted: thus is explained the enthusiasm with which populous cities came to the aod of the bishops, when they projected the construction of great cathedrals. But when that outburst was suddenly stopped, the citizens found in the royal authority serious guarantees, they began to erect habitations with entirely new ardor, and wood lent itself marvellously to the quick satisfaction of those needs; econocy, and still more important, the small area occupied by the solids. Everywhere also till the end of the 16 th century, architecture followed its regular course, improving the houses, making them lighter and more commodious, but continued to employ Romanesque methods. The form alone vas modified. One sees in Burgundy, Lyonnais. Limousin. Perigord, Auvergne and Languedoc, houses of the 14 th and 15 th centuries, which differ from those of the 12 th and 13 th centuries only by the style of their architecture. 1 Neither the construction nor the arrangement of those habitations is modified in a sensible manner. In the most southern provinces also, that which in the 14 th century was not French, were seen at that epoch habitations, whose style absolutely retained the Romanesous character. For example, such are some houses of the city of Perpignan; one of those houses, since devoted to the service of the palace of justice, presents a facade in a taste nearly antique, in spite of the details borrowed from the Arragonese style of that epoch. (24).2 At the eastern side the traditions of Bomanesque construction continue till very late in the habitations, i.e., till the 15 th century. Certain houses of Treves, Cologne and Mentz, that were erected at the beginning of the 13 th century, could pass for Romanesque houses in Ile-de-France and Champagne. One even vet finds in some of those habitations particular arrangements, which belonged in Frauce only in the 12 th or beginning of the 13 th centuries: for example such are fireplaces with flues corbelled out beneath the front walls above the second story (Art. Cheminee). We give (25) the facade of one of those old houses of the city of Treves, that dates from the beginning of the 14 th century, and that shows its chimney in the middle of the gable wall on the street.

Note 1.p.261. Arch. civ.et dom. of MM. Verdier et cottois. Note 2.p.261. The little columns of the second story of thThis bouse or a strice; the rest of the foods to built of the sound strice.

In the voussotre of the central doorway, the plotoonds of the foreign of the reacting forcers. These ore the reacting the force of the reacting of the force of th

plan, and the flas is derminated by the cap 3 that rests on a reed permit working near the fireplace, eas to warm one's self fine persons in these time thus had their comfort, and from what we know of ecommonating acresives tuday, it does not follow that ours may be wore wisely annerstood. To rever orimitive the car had not another orimitive to a not contain the course wisely annerstood. To rever orimitive to an another or another or an invertors.

OR II ON THE RESERVE TO DESCRIPT AND ADDRESS. -two story of assessor vitalization and return of the ruction at that ecoon, and denerally duble walls present themselves on the skreet, the loss succeeds for building naving -siz die stillskiest with no yn allies sin West wither res, that the front of the auta is most prized. The if the s site be a borier, wanta constitues occurred, the girls walls were placed on the party walls, and the front half times wall on the attest was the save well. Mere (26) is a house of Readvais 1 presenting that arrundement. On the drouch story was a corrected with snop benind it, as one suil sees at Rheins. 2 t The second story on the street consists of two rooms, to waich wears for the last but his hearthy artists record was no ellipseed you wase A. Remeath bne roof was a areat room lighted by two dorders, one on the street and the other on a livile court. That I'm small averages at 71 and 72 selection of the letter and with the latter of this tight of Stephen, suggested the organization

stouces 70 eroups of the dust end state on the squere of Beausts the 1884, of the contern side.

this house are of marble; the rest of the facade is built of stone and small rubble. One will note the exaggerated jointing of the voussoirs of the central doorway, the platbands of the lateral openings of the ground story. These are the remains of traditions very for removed from those of the provinces of the north.

The hearth is placed as indicated by the fragment A of the plan, and the flux is terminated by the cap B that rests on t three corbels in the form of capitals and on two little arches between the windows of the second story. It must be quite pleasant while warming to enjoy the view outside. Windows so pierced permit working near the fireplace, and to warm one's self without being inconvenienced by the reverberation of the fluxe. The persons in that time thus had their comfort, and from what we know of accommodating ourselves today, it does not follow that ours may be wore wisely understood. However primitive t that comfort, at least the architecture was entirely subject to it, while today our architecture (at least what it is desired to persuade us is ours) is in a perputual discord with our habits in interiors.

Let us return to the houses of French cities of the 14 th and 15 th centuries. Wood decidedly dominates in their construction at that epoch, and generally gable walls present themselves on the street, the lots suitable for building having greater depth than breadth, by the reason dominating all cities, that the front of the site is most prized. Yet if the s site be a border, which sometimes occurred, the gable walls were placed on the party walls, and the front half timber wall on the street was the cave wall. Here (26) is a house of Beauvais presenting that arrangement. On the ground story was a portico with shop behind it, as one still sees at Rheims.2 t The second story on the street consists of two rooms, tolwhich one ascends by the screw stairs placed at the end of the passage A. Beneath the roof was a great room lighted by two dormers, one on the street and the other on a little court. That house dated from the beginning of the 15 th century. There yet exist some houses of this kind at Orleans, excepting the portoco.

Note 1.p.265. This house existed on the square of Beauvais in 1834, at the eastern side.

the open available of the parties senting the Aurice and the Aurice senior he sent tes same tes interested as influence and outliers. someone to honorer promount to IP along the design in tos arosa osocies. Private structures arose in éreat mareer at Paris, deems, Orladas, desurais, Rodes, in all ordies the state of of saldand, lost assured a conferent within the character of anticoprison of their death of the formal offers are proposed in "YES DESCRIPTIONS AND THE STREET OF STREET AS SECURITION AND to level end mora decree can cont tellector over scheol's end the floor of the second story. These facades thus became actand controller, with any divisor and sentence of the condecrion beyond the front of the substructure. The fronts of t the samue sere andrefore certestly smallered. This system of With All to also media to the action of the contract of the co

ots on market squares, nearly always sucrounted by costs. - One still sees at Rheims a hoome with facede of aside er work, perfectly preserved from top to bottom, projected 5.4 to. into the public street (16 tis), corbeliad out on s; same a service as the same as the same apports one fireplaces, and its superchief the receives the braces. At the other the party welly is only a simple belt timper franchork. The wooden aparass att oned to the corner poet near the stone pier no longer sxist; nut the two lower end brooms are sealotored in all relief, at one side oaing demsen allying the lion, at the other S. Michel ocating the deton. This fromt france formed a projective gallery, since it receives side light, is constructed with great perfection: indeed iss consections must be perfectly arrended, since the oscoentry has saffered no deformation, sithough in its entire ner fot are no Y-braces. The souces because n ton posts are filled by masonry and plaater.

THE RESERVE AND ADDRESS OF THE PARTY.

Likewise here (?7) is a house of Powen in malf tirrer work in 4 stories, a little sarlier than the orecasing, i.e., beionaling to the first half of the 15 th oentery, and that form the angle of two stories. The nalf timest frame of even story is corpelled out from the others (see section A), so that the third story has an area senticly larger than that occupied by

Note 2.p.265. Of a later epoch.

After the war of independence in the 15 th century, when the English were compelled to abandon the North and West of France. there was under touis XI a pronounced movement of prosperity in the urban peoples. Private structures arose in great number at Paris, Rheims, Orleans, Beauvais, Rouen, in all cities of Normandy, Picardy and Ile-de-France. Because of this need of building, land acquired a considerable value, and while 1 leaving free circulation at the ground story by suppressing even the porticos, whose piers or posts were an obstruction. the facades were corbelled into the street from the level of the floor of the second story. These facades thus became actual galleries, wide and giving the stories up to 6.6 ft. projection beyond the front of the substructure. The fronts of t the shops were therefore perfectly sheltered. This system of construction was particularly adopted at the ends of the straets on market squares, nearly always surrounded by posts.

One still sees at Rheims 3 a house with facade of half timber work, perfectly preserved from top to bottom, projecting 5.4 ft. into the public street (26 bis), corbelled out one 5y strong braces. At one side a party wall A of stone supports the fireplaces, and its supporting pier receives two braces. At the other the party wally is only a simple half timber framework. The wooden statues attached to the corner post near the stone pier no longer exist; but the two lower end braces are sculptured in half relief, at one side being Samson slaying the lion, at the other S. Michel beating the demon. This front framing forming a projecting gallery, since it receives side light, is constructed with great perfection; indeed its connections must be perfectly arranged, since the carpentry has suffered no deformation, although in its entire neight are no X-braces. The spaces between the posts are filled by masonry and plaster.

Note 3.p.265. Place des Marches.

Likewise here (27) is a house of Rouen in half timber work in 4 stories, a little earlier than the preceding, i.e., belonging to the first half of the 15 th century, and that forms the angle of two stories. The half timber frame of each story is corbelled out from the others (see section A), so that the third story has an area sensibly larger than that occupied by

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were furnished by N. Deoret, orciliect, who at the Bolon of R

1981 subibited several old houses of Roven and of Orizons dra

con with extreme core. The ministry of State, at the reaucst

of the committee of historical manuments, also caused a certa

old number of those houses of Orleans to be drown by N. Vaudayer.

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In Pid. 28 the masonry penels color she still are still vistole; soon these disappeer benind cenels of joinery, and the entire front of the bouse only presents an assembly of woodwork. On this cests were built many nouses at the sui of the

Pig. 20 reproduces the part of the napitation of the porter of S. Amand at Nouen, and store acrove a ground etery of mason-by two stories entirely of vook, ordemented externally by par-

the ground story. The cornice at the base of the gable represents a series of machicolations.

Note 1.p.266. Rue de la Tuile. The drawing of this house we was furnished by M. Devret, architect, who at the Salon of 1 1861 exhibited several old houses of Rouen and of Orleans drawn with extreme care. The ministry of State, at the request of the committee of historical monuments, also caused a certain number of those houses of Orleans to be drawn by M. Vaudoyer.

In the 15 th century the windows of wooden houses ar multiplied and small; that was a necessity of construction, therefore when the half timber frame attained a great height. Indeed this sort of structure, by even the nature of the material employed, is subject to bending. Great sashes of windows would frequently have been deformed, compressed or bent by the movement of the wooden timbers. It would have been constantly necessary to remove and refit them, while small sashes were less affected by changes in temperature, or more readily followed the movements of the carpentry. Besides, one notes that the sills of these windows being carefully fitted wit X-braces prevented the movement of the door posts, and that the weight of the half timber frame is transferred to the corner posts by being relieved at each story. But the inhabitants of those cities of the North sought more and more to open these wooden facades. At the end of the 15 th century frequently, they made actual lanterns, as prowed by the example opposite (28), also taken from a house at Rouen. Only the sills with their X-braces prevent the swaying of the wooden frame, also made with the precision of a work of joinery. Thus also at that so epoch the wooden house loses the character of a carpentry construction to take that of furniture, of an immense chest.

Note 1.p.268. Rue Molpalu. Necalso borrow this drawing from the work of M. Beuret.

In Fig. 28 the masonry panels below the sills are still visible; soon these disappear behind panels of joinery, and the entire front of the house only presents an assemblage of woodwork. On this basis were built many houses at the end of the 15 th century and the beginning od the 16 th.

Fig. 29 reproduces the part of the habitation of the abbey of S. Amand at Rouen, and shows above a ground story of mason-ry two stories entirely of wood, ornamented externally by car-

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onely metrined, that there were built a freet auxoer of wooden nouses, but or which were found nowever the forms of pilasters and beaus, that did not belong to the system of construction it corpentry. There still exists in Rue de it Grosse-dorlore at Rough two nouses of this kind, what are covered by one stous sessils. To five (30) a part of one of them.

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the belinning of the 17 th beatury, wives place to the chambers. The areas are divided; each ash wishes to be by nimesif, and the distone of life in cornol distoners. One understands now a family became attached to its nouse, when the cornol real, that even served for one councer of the desters, had seen the birth and destin of several deperations, not wishes set festivate in its inserior, had love been trotten by the feet of friends; one companents than now each citized neid to having his boase pleasant and decorated; but one note and anderstand the lawary spread over the facecase of ordinary nonables, in which the occupants left but a fleeting memory. Naterally the appearance of those nouses must be as cornol as the chefit has trous the point of view of art, is that an advance?

carved panels of joinery. When a little later with the Renaissance men returned to stone structures, that habit was so strongly retained, that there were built a great number of wooden houses, but ou which were found however the forms of pilasters and bands, that did not belong to the system of construction in carpentry. There still exists in Rue de la Grosse-Horloge at Rouen two houses of this kind, that are covered by precious details. We give (30) a part of one of them.

Note 1.p.2.10. These houses also form a part of the work of M. Devret, but will soon disappear by reason of cutting a new street. It is to be desired that these precious facades should be deposited under shelter in some public manument of the city of Rouen.

The 16 th century saw erected also such stylish houses, the last reflection of the art of the middle ages. After the disasters of the end of that century, the houses returned to the simpler style, but the plans were middified very little, and many houses of the time of Henry IV and of Louis XIII reproduce exactly the plans of the earlier habitations. It was only under the reign of Louis XIV, that the houses (we are not spaking of the mansions) lose all external character. Then nearly all walls are plain or are timber frames with panels filled with roughcast, pierced by rectangular windows, without anything to occupy the eyes; but the interiors are also profoundly modified.

The hall, that we also find in the habitations until about the beginning of the 17 th century, gives place to the chambers. The areas are divided; each man wishes to be by himself, and the customs of life in common disappear. One understands how a family became attached to its house, when the common hall, that even served for the chamber of the masters, had seen the birth aud death of several generations, had witnessed festivals in its interior, had long been trodden by the feet of friends; one comphehends then how each citizen held to having his house pleasant and decorated; but one does not understand the luxury spread over the facades of ordinary houses, in which the occupants left but a fleeting memorw. Naturally the appearance of those houses must be as common as their use. From the point of view of art, is that an advance?

From the examples of urban habitations that we have presented

source, is base it the mines of which tes courses retains the fall ess of als individuality. The inscorpance or despond onvillation of the fall factors of the fast see despined to east a brilliant glass rate assist. There indeed the citizen cost and exist: there is not sovereign, the theoretey or the aristocracy, then a maintains of men whose passage is only marked by those producting monuments, like those of deyot, India or of Asia Minor. In a such a state the house does not exist; between the palace and the mad hovel is no intermediary, and assis all the mad not researce each other in form and dimensions. To the northern

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a ciace, to taces races alone, the Greeks of antiourry at the eir neid, it was given to purin nouses, i.e., habitanione indicabing the because and tastes of each one, modifying them in accordance with the changes appraised in those nebits and tagtes. The faudil system was indeed modes on Transe by comouest, although reprens to the Pallo-Rown peoples, was not made to destroy individualism, organal resonatolity, on t the contrary, it daveloos? with energy this sentument natural to vae mestera probles, it extendituees accorde for a cermanunt state, it allowed a list recourse afainst oputesaioa by the employment of the fourth nechanish isself: for every -cs end of frozen evends thace that a vd beasendoo laukivikan vereign, and every numericality could, womerimes forming the party of the brance, sometimes such of the ley baron, make a final sucest against tyrandy. Fast percently was not a rotalark readies jud ; ii bacasaans en er . sacra becilco bur teur It a soute contrary to the intellectual development of the I A CANADA SAFARAS SAFAR

the middle eees, and consequently his manifold retains a definite and recognizable concesses.

in this Article result a series of interesting observations. The individual character of these houses is striking; now we range ourselves with the opinions of those, who claim that t the moral condition and its vitality are by reason of more or less responsibility left to each one. The true civilization. that civilization distinct from a policed state, fertile and active. is that in the midst of which the citizen retains the fullness of his individuality. The theocratic or despotic civilizations of the East are destined to cast a brilliant gleam at a given moment, then to gradually become extinct, to never rise again. There indeed the citizen does not exist: there is the sovereign, the theocracy or the aristocracy, then a multitude of men whose passage is only marked by those prodigious monuments. like those of Egypt. India or of Asia Minor. In s such a state the house does not exist; between the palace and the mud hovel is no intermediary, and again all the mud huts resemble each other in form and dimensions. To the northern races that emigrated to the West, taking wit them those great wagons containing their families, actual rolling houses, that were fixed on the ground on the day that the tribe conquered a place, to those races alone, the Greeks of antiquity at their head, it was given to build houses, i.e., habitations indicating the habits and tastes of each one, modifying them in accordance with the changes operating in those habits and tastes. The feudal system was indeed imposed on France by conquest, although repugnant to the Gallo-Roman peoples, was not made to destroy individualism, personal responsibility, on t the contrasy, it developed with energy this sentiment natural to the western peoples, it established the struggle for a permanent state, it allowed a last recourse against oppression by the employment of the feudal mechanism itself; for every individual oppressed by a lord could always resort to the sovereign, and every municipality could, sometimes joining the party of the bishop, sometimes that of the lay baron, make a final appeal against tyranny. That certainly was not a regulated and policed state, as we understand it; but neither was it a state contrary to the intellectual development of the i individual. Thus the individual was something in the cities of the middle ages, and consequently his habitation retains a d definite and recognizable character.

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which the same and the same of aly storenouse. Calibraty butts, occase or arranged, toose of avallage apported the citizens, and lost on entering all infivenus appearance and no tonfer resoluted themselves, so to seems, encoor by the names of soress and nuclers. So we see that it first waste the feeting of personal resoonsibatter, of the distanceion of the individual was much bester preserved toom arout us, the inhabitacus of the frest provent if they cossess; nodest nearly statist in appearance, at lanss possed them by families, sod only gion difficulty lent the was end hi ameder consumb lo of lifeers dear of seviseme ambitudion. This fact seems to us to have a moral missificance of dich importance, and it is not missout lively settleface. ion, that we see in our days unis feelief of the distinguion of one family, of individualism, take cossession anew of men. sment area (smelleges) - are conference and applied story

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the most realest measures to arouse this healthy tennency of the most realest measures to arouse this healthy tennency of air in our opinion the Masse carnot sail itself morely by civilized until the day, wher each ordined will bosess my proper residence, in which he can reise his family, where he will leave the memories of the food that he has been able to do, or the services that he has rendered to his neithouse. The waits speak, and a man that would do a shameful act in the realed loading, that he will leave in aix months, will he residues between the walls beloading to him, and where his collared will from up, to leave himself to him, and where his collared will from up, to leave himself to him and where his collared will from up, to leave himself to him and where his

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The absolute government of Louis XIV almost entirely stifled that sentiment so active until the end of the 16 th century. and the house of the French citizen lost all individual characteritaithe 17 th century. The city habitation became a family storehouse. Uniformly built, opened or arranged, those dw dwellings absorbed the citizens, who lost on entering all individual appearance and no longer recognized themselves. so to speak, except by the names of streets and numbers. So we see that in England, where the feeling of personal responsibility, of the distinction of the individual was much better preserved than among us, the inhabitants of the great cities. if they possessed houses nearly similar in appearance, at least possed them by families, and only with difficulty lent themselves to that assemblage of numerous renters in the same habitation. This fact seems to us to have a moral significance of high importance, and it is not without lively satisfact ion, that we see in our days this feeling of the distinction of the family, of individualism, take possession anew of men. and react against the enervating system introduced into France under the gowernment of Louis XIV.

Everyone desires to have his house; now if the vast majority of the inhabitants of our great cities cannot yet satisfy that taste in the city, at least let one seek torfree himself from the bad conditions of the common dwellings by erecting those myriads of little suburban houses, that occupy our suburbs, and in which even families with small fortunes can pass a good portion of the year. It will be one of the glories of the existing government of France, to have known how to take the most radical measures to arouse this healthy tendency of minds: for in our opinion the State cannot call itself morally civilized until the day, when each citizen will possess his proper residence, in which he can raise his family, where he will leave the memories of the good that he has been able to do. or the services that he has rendered to his neighbors. T The walls speak, and a man that would do a shameful act in t the rented lodging, that he will leave in six months, will h hesitate between the walls belonging to him. and where his children will grow up, to leave himself to his evil tendencies.

It is now necessary for us to speak of mansions, i.e., of city nouses belonging to lords or to wealthy private men, and

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lud in the daily life of the street (forther is is for most of them a necessity), so the noble and the wealthy capitalish at the head of may attendents adhere to sattoing themselves victia their noises, to live a faural life in the capitalish ted, naving to necitual communication with the exterior. The communication of the necessary of the noise of the new of a nocle, then differs entirely then the noise of the citizen. Thus kind of natitation has been compelled to suffer even more oncreas than the noise of the citizens. Occacying even more oncreas than the noise of the citizens. Occacying

soey nave osen modulied appointing to the taste of the day; wo so loneer find in France manaions presented the 15 to century, or as least the remains teff to us nave but a redicore value.

One of the oldest of those manaione is soul seen at Provided; it beloned to some rise cannot of S. Autriace. It consists (%1) "of two instract originals, separated by a variant passeade. At the left is found the frest reception half placed in the second story; this is reached from the court by an external stairs of wood. Three double windows opened in the faceds opposite the church and light this room; it was warmed by a dreat fireciace of store, and covered by visible carbentry muth a trust of the massed is found with a trust of the massed is found

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Note 1.p.275. Arch. ctv. et dom. by Verdler & Cottois. Vol. II. p. 205.

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osstations were very well preserved, stan ne built his manion.

that occupy quite extended areas, which enclose courts and sa even sometimes gardens, but which do not affect the defensive arrangements of the feudal castle, and that are not equipped with towers and crenelated walls. As we stated in commencing this Article, the mansion does not habitually have its living apartments on the public street, but rather the common rooms and dependances, and sometimes a simple wall with the porter's lodge. As the citizens and the merchants adhere to participating in the daily life of the street (further it is for most of them a necessity), so the noble and the wealthy capitalist at the head of many attendants adhere to shutting themselves within their houses, to live a feudal life in the city, isolated. having no habitual communication with the exterior. The character of the mansion, or if one prefers, that of the house of a noble, then differs entirely from the house of the c citizen. This kind of habitation has been compelled to suffer even more changes than the houses of the citizens. Occupying larger areas. having successively belonged to wealthy persons, they have been modified according to the taste of the day; we no longer find in France mansions preceding the 15 th century. or at least the remains left to us have but a mediocre value.

One of the oldest of those mansions is still seen at Provins; it belonged to some rich canon of S. Quiriace. It consists (31) "of two distinct buildings, separated by a vaulted passage. At the left is found the great reception hall placed in the second story; this is reached from the court by an external stairs of wood. Three double windows opened in the facade opposite the church and light this room; it was warmed by a great fireplace of stone, and covered by visible carpentry wi with a trussed ceiling. At the right of the passage is found the kitchen and two rooms placed between the court and garden, and that served for the habitation."

Note 1.p.275. Arch. civ. et dom. by Verdier & Cattois. Vol. II. p. 205.

In some of the flourishing cities of the South, scarcely k known today, there exist habitations of the 13 th and 14 th centuries, that partake of both the mansion and the house. T The rich capitalist of those municipalities on the banks of the Garonne, Aveyron, Tarn and Lot, withing which Gallo-Roman traditions were very well preserved, when he built his mansion,

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In the right and left of the extremes & are the starphone or succe organa as a seess. As F is the present of and at C is a little service court reached by a passese D. Th The open roum & probably served as a stable. F is a celler. Man deep and to obtaining owner | yearless tollers stay a H in the dround story, range issees soore the dround - aprie . Taebree a diin assecianmoo I seesen A . 11000 sat lo -isaem and flind at actor drained fragment ble and efizive bed oa. Enitheds of a late ecoon have been carely erected on the NAMES OF STREET OF STREET OF STREET STREET STREET STREET and proceedy those occupying them locked elsewhere, upless these storegrous ware for the day of the owner of the mineron. The drest statement 3 ascends to the second story is a light stellist over H, and communicates by a worden passed V with A .ancitated vd Estivib vino sers naiv anibired incrl ent which story also rose thove buts from building, and was sereldate eff. eserge brook a second passage. The state T source of little A .voca Facas a say to relieve the atta flight of seeps opens on the court opposite the hall P. 2 Tais banisting dates from the first yours of the 14 th centend to neasement to soldericities of the manager of and has .Jeerse end no neor suche end neorale . sees eithin The same of a supply of street erelcots.

Note 2.p.275. These plons were drawn by N. Thomas, ex-orchiteat of Tarm. M. Thomas has wide a usry interesting work on

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the contract of the sides, and a building retired and looking

desired to have storerooms on the street, either for use in his own business to to let. Those mixed structures were frequent at Toulouse, Alby, S. Antonin, Cordes, Gaillac and Villeneuve d'Agen.

We give (32) the plan of one of those mansions situated in the main street of the city of Cordes opposite the promenade of Bride.

On the right and left of the entrance A are the storerooms or shops opening on the street. At B is the principal court and at C is a little service court reached by a passage D. Th The open room E probably served as a stable. F is a cellar. A wide winding stairway G gives admission to the great hall H in the ground story, raised seven steps above the ground of the court. A passage I communicates with a garden K, situated outside the old rampart against which is built the mansion. Buildings of a late epoch have been partly erected on the garden from a to b. The shops L L had access into the court and probably those occupying them lodged elsewhere, unless these storersoms were for the use of the owner of the mansion. The great stairway G ascends to the second story in a hall situated over H. and communicates by a wooden passage M with the front building with area only divided by partitions. A third story also rose above this front building, and was served by the grand stairway and a second passage. The stable and the cellar only had a ground story. A little terrace N with flight of steps opens on the court opposite the hall H.2 This habitation dates from the first years of the 14 th century, and has all the characteristics of the mansion of the middle ages, although the shops open on the street, and the front building serves for lodgings in the second and third stories.

Note 2.p.275. These plans were drawn by M. Thomas, ex-architect of Tarn. M. Thomas has made a very interesting work on the houses of Cordes, deposited in the archives of the monuments historiaus.

The data that one can collect on the mansions of the 13 th and 14 th centuries in the cities of the North are not sufficiently complete to allow us to give plans of those habitations. We shall only state that they contained courts with porticos on one or two sides, and a building retired and looking

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comprising two towers of the ramparts of Bourges on which he built his mansion. (See intio. et les yans. du Rerry, by Haze. 1881.

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on the court and on a garden, with the offices placed in the vicinity of the street. The oldest edifice of this kind still entire is the mansion of Jacques Coeur at Bourges. It is on a fief established on the walls that enclosed the city, that Jacques Coeur erected this splendid residence.

Note 1.p.276. By a charter of 1224, Louis VIII permitted the inhabitants of Bourges to build on the ramports. Seperal tomers and curtains thus became private property. In 1443 Jacques goeus purchased from Jacques Belin for 1200 crowns the fiel a comprising two towers of the ramports of Bourges on which he built his mansion. (See Antia. et les Mans. du Berry, by Haze. 1884.

We give (33) the plan of the ground story.

The towers S. R and Q formed a portion of the ramparts of the city and were utilized. S was crowned by a rich crenelated pavilion. and the stairs to it was thus attached to the tower O. The arrangement of the rampart formed a very obtuse angle on which the face of the wall was built, obliging the architect to give to his buildings the skew arrangement, that we s see reproduced in the construction. But then little attention was paid to symmetrical combinations, and men profited by the site as much as possible. The entrance to the mansion is at A on the street, and consists of a gateway with a postern B at the side; the stairs F ascends to the chapel located over the entrance. Thus from the exterior it was easy to reach that c chapel without entering the interior of the residence. From the entrance A for carriages or riders, and from the postern B. one entered the great court C under an enclosed portico D and beneath that at E. The last portico opened on a court G, having a party well G'. At H is the principal stairway, giving entrance in the ground story to a great dining hall I and a service passage J, communicating with the kitchens placed in K and K'. The kitchen K' had a nearth with fireplace and a stove for soup. From the street one could directly reach t the kitchens by the corridor L and the little service court L'. connected with the great court by the passage L". The great dining hall was heated by an immense fireplace c, and was accompanied by the little gallery I' intended for musicians. The That gallery was reached by the stairs f without passing through the hall. On the floor of the hall I a trapdoor i gave a

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spowledge. M has the pantry from which by a masel m the dredsent fittner were passed into the half. The little attaignt stairs noted in the pantry descended into the lower story of
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their position appear to have served as enamous with vardrobe placed in the source tower 9. That entire angle, including the tower 8, formed a corolete and independent appriment, siace one could descent from the great anamour T' into the listle court by a stairs \$, or assend to the unper stories. The corter's lodge was at V. As for the gallery D, it served as a

one remains from the table of decruse Spear. The poor unus had no access into the mansion, and could await under shelter, a natil ferm the kinchen was prought what was reserved for them. The stairs X, H, O and & accend from the ground to serve the access stories.

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If this pash of tressular, one should recognize that its a strenderent is well understood. Sach service is in the clace, the commandations between the easy and yet are interpolations of the sattunce is the kitchen service much

access to the cellars. That trapdoor was reserved for the use of the butler, who could thus bring the fresh wine directly into the hall at the time of the repast, or indeed as some claim, it permitted him to cast the silver ware into the cellar in case of fire; this we cannot decide. The great fireplace had an opening of 19.7 ft. and was richly ornamented; its mantle represented a fortified city, and at the two sides two nude statues of Adam and Eve were separated by the tree of k knowledge. Mawas the pantry from which by a wheel m the dressed dishes were passed into the hall. The little straight stairs noted in that pantry descended into the lower story of the tower S. which thus served as an annex to the pantry. Opening into the little kitchen K is below the oven and a vaulted lavatory, paved and with a gargoyle ending in a cesspool. Privies for the servants were placed beside that lavatory under the solid stairway. A stairs n connected that kitchen with a mezzanine of the tower S, and a second story by means of the screw stairs t. The little court L' has a fine well with spout, permitting the filling of tanks arranged in the great kitchen K. From the kitchens the meats were brought into the pantry by the passage J, that ended under the grand stairway H. Passing beneath the stairs 0 one found a corridor directly connecting the great court with the place of Berry P. At T T' are two great rooms, whose purpose is unknown, but which by their position appear to have served as chambers with wardrobe placed in the square tower R. That entire angle, including the tower 0, formed a complete and independent apartment, since one could descend from the great chamber T' into the little court by a stairs g, or ascend to the upper stories. The porter's lodge was at V. As for the gallery D, it served as a place for the assemblage of the poor, to whom were distributed the remains from the table of Jacques Coeur. The poor thus had no access into the mansion, and could await under shelter, u until from the kitchen was brought what was reserved for them. The stairs X, H. O and g ascend from the ground to serve the upper stories.

If this plan be irregular, one should recognize that its a arrangement is well understood. Each service is in its place, the communications between them are easy and yet are independent. On the right of the entrance is the kitchen service with

THE RESIDENCE OF STREET, AND RECORD AND STREET, AND ASSESSMENT OF THE PERSON OF THE PE of degree (Sear, 18 ) friends a feather I figure 1 the the dead will to want has a planting that her true added the on these for living apartments were at C: they were placed in periodicalization of the dead took to the the callege of the THE RES THE PROPERTY AND ADDRESS OF THE PROPERTY OF THE PARTY. sed to the coapel H, to water one size ascended directly from and lower vestioule by the stairs T. Another deliery ? likem--de concord the coapel with the T like and the separate out end to solves ent . J saints staven a bad solve K. The service THE RESIDENCE OF THE SET I ASSESSED AND METERS OF THE PERSON OF THE PERS A first read of the state of the free Teen and the Lincil, westing and dried pleasure, was nerved up the penned stairs O. To the second story as in the ground story, too til-THE REPORT OF THE PARTY OF THE was rooms in eater for recoprions could not inserfere size to THE STANSON STRUCTURED OF MER RESIDENCES. IN COMMERCE OF THE PROPERTY. on, one goes that her produced overeited his annellant by the ward not yielder of cents to call your and you applied that to ses or darticular users of one owner. It is certain that the of Journal of Marries and Toursell and Spring Street -ceripper end of beciliness ask varenevs to sent lie Jana Ene free rates Life were absorbed been selected as sold as held as the later to make ANY ARREST OFF ANY ARREST AND ANY ARREST ARREST ARREST AREA ons, consisted of numerous loffices, cacinets and markenes, and separation and the proposition of the part of the ons, dreat and small, are lighted.

ace of a foudal domeia, and in grees part the retaining of

its court, its special exit and its great portico for the distribution of alms. Opposite is the principal stairway for the apper apartments and the dining hall of the ground story. On the left is a complete and independent apartment with its court and its portico permitting private entrance or exit. Many mansions of the 17 th century are far from presenting arrangements as convenient and well studied.

Fig. 34 traces the plan of the second story of the mansion of Jacques Coeur. The principal stairway A gives entrance to the great hall B, which has a platform like the great halls of castles. The living apartments were at C: they were placed in communication with the great hall B and with the gallery D by service passages and direct exits. From the gallery D one passed to the chapel E. to which one also ascended directly from the lower vestibule by the stairs F. Another gallery G likewise connected the chapel with the hall I and the separate apartment K. which had a private stairs L. The service of the principal apartment C was by the stairs M or by the stairs X. The salon I found an exit by the stairs N, the great hall B itself, besides the grand stairway, was served by the second stairs 0. In the second story as in the ground story, the different services of that mansion were made independent, and t the rooms in mended for receptions could not interfere with t the private arrangements of the inhabitants. As in the castles, one sees that the programme compelled the architect to find combinations of very complicated plans to satisfy the tastes or particular needs of the owner. It is certain that the numerous lobbies were disguised and appeared indispensable. and that all idea of symmetry was sacrificed to the requirements of the habitation as then understiced. One will note that the apartments intended for habitation, besides the great rooms, consisted of numerous lodgings, cabinets and wardrobes, that could not fail to be very convenient; that all these rooms, great and small, are lighted.

By utilizing the Gallo-poman towers and ramparts, Jacques Goeur was perhaps not sorry to give his mansion the appearance of a feudal domain, and in great part the retaining of those towers required the irregularities of this plan. Besides, the archatecture adopted lends itself to those defects of symmetry, and nothing is more picturesque or more brilliant,

and load orestinds, formerly pagared and salded.

To present (25) a cavalier view of that manaion taken from the point Pr. (see plan of ground story). The construction is

onseming style, appropriate to each service, mindled with enblons, devices, deserts, pluras and scalls. Thus over the three obstitues of the charel stairs, in the typenum, the scalbior has placed a priest clothed in the alb and blessing the waren; central his a young cleric ripes for the mass; then comes the olace is accessible to all. The second relief represents the

olace is accessible to all. The menced relief represents the sterios orecards for the court of the fairs of the soor. At any the color of the color, and the color of the colors the colors.

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mich band or charded mich three enells sable, accompanied by three nearts dales placed 2 in onice and 1 in point.

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condity and descript from a blue frouth area fold stars. The
knows how one illustribus parvens capitalist of the 15 to conoury paid dearly for this associatedee. The man is one of the
most remarkable individuals of our country. Hate backgaren

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note 1.p.281. This chorming ediffice was conserted into a powlace of dustice, and had suffered numerous mutilations. You placed in the hands of one of our wost distinguished colleagaces, y. Bailly, we are assured that it will be restored with the care and respect, that it werlts.

than the interior of that court with its stair towers, its se separate roofs surmounted by chamney caps, finials, dormers, and lead crestings, formerly painted and gilded.

We present (35) a cavalier view of that mansion taken from the point P'. (see plan of ground story). The construction is everywhere treated with extreme care and the sculpture is in a charming style, appropriate to each service, mingled with emblems, devices, hearts, plames and shells. Thus over the three openings of the chapel stairs, in the tympanums, the sculptor has placedda priest clothed in the alb and blessing the water: behind him a young cleric rings for the mass; then comes the beggar leaning on a crutch, as if to indicate that the holy place is accessible to all. The second relief represents the cleries preparing the altar. The third a woman arriving for the office, preceded by a child, that opens the door. At the top of the stairway is a fourth relief representing the Etem al Father with two angels in adoration. Above the doorway of the stairs is soulptured a wide fireplace before which hangs a kettle, a child turns the spit, a woman washes the dishes, and the cook pounds spices an a mortar.

Among the devices on several tympanums, or painted on the glass is read the following: - "To brave hearts nothing is impossible." Then these enignatic words: - "God to do to be silent for my joy." Or indeed this proverb: - "Into the closed mouth enter no flies." Jacques Coeur had adopted as arms: - azure with band or charged with three shells sable, accompanied by three hearts gules placed 2 in chief and 1 in point.

The vaults of the chapel are entirely painted; in each triangle of that vault is an angel clothed in white holding a scroll, and detached from a blue ground with gold stars. One knows how the illustrious parvenu capitalist of the 15 th century paid dearly for this magnificence. The man is one of the most remarkable individuals of our country. This habitation is then an edifice interesting from all points of view, among those that we possess in France:

Note 1.p.281. This charming edifice was converted into a polace of justice, and has suffered numerous mutilations. Now placed in the hands of one of our mosh distinguished colleagues, N. Bailly, we are assured that it will be restored with the care and respect, that it merits.

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called de la Tronoille; is and a requiar fiet orensed as Paria and ar Charles V and held directly from the kine, laber from one observe. It was reduct account account as no have seen is, ov hours de la Trenoille, born in 1450. Bais hours de la Prenoille espiurei the dake of Orleans at the batche of 8. Auoinda-Corener in 1450; anno dil not prevent the Valors after becoming kind of Tranos from conferency account the occuser of the army of the Vilages in 1500. He was killed at the batche of Pevra, here (36) in the plan of the fround story of the size (36) in the plan of the fround story of the size of the fround story of the size of the fround story of the size of Pevra.

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spacious court, maring near the entrance a cordica mith a

outline. Paneath a small tower supported by tro column at the left at i, was a passess connecting the court with a d garden that extended to Rue fineshappe, and which at this sums had a carrings date with cultings at right and left f

rance into and free hall D. see prizonoul scairs &, the hall T by the floor B. by descending

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stops allowed one to penetrate directly from the court into the two nooms M and L. A second service stairs N apsenced to the apper sucries and end the roofs. At O was a little of a court with well. The rithmens and their dependances were found in 0; they were in dreat part destroyed and included in an adjoining property. A portice P joined to that of the enversance from Rie Tirechappe allowed one to pass under cover from that it there and of the service stairs, that after a cover in the diminal mail of the cover. I the lower landing of the service stairs, that formerly conducted the arranged at V at the stair that formerly conducted the arrangement of the mater and mater, that formerly conducted the arrangement of the rain sever. In the second storm the arrangement of the rain

We have now come to the end of the 15 th century, and to d describe one of the most charming mansions of that time, so rich in structures of this kind.

There still existed in 1840, Rue des Bourdonnais, a mansion called de la Tremoille; it was a regular fief created at Paris under Charles V and held directly from the king, later from the bishop. It was rebuilt about 1490 just as we have seen it, by Louis de la Tremoille, born in 1460. This Louis de la Tremoille captured the dake of Orleans at the battle of S. Aubindu-Gormier in 1488; which did not prevent the Valois after b becoming king of France from conferring upon him the command of the army of the Milanese in 1500. He was killed at the battle of Pavia. Here (36) is the plan of the ground story of that mansion.

The entrance gate A was accompanied by its postern a, and opened on Rue de Bourdonnais; it gave entrance into a quite spacious court, having near the entrance a portico with a return at the right side. At the back rose the principal b building. Beneath a small tower supported by two columns at the left at B, was a passage connecting the court with a g garden that extended to Rue Tirechappe, and which at that side had a carriage gate with buildings at right and left f for carriages and horses. A great flight of steps C gave entrance into the great hall D, the principal stairs E, the hall F by the door G, and the little vaulted room H, by descending some steps. Continuing to descend, one reached the cellars, well ventilated and spacious. Another door I with flight of steps allowed one to penetrate directly from the court into the two rooms M and L. A second service stairs N ascended to the upper stories and even served the roofs. At 0 was a little court with well. The kitmbens and thei dependences were found in P: they were in great part destroyed and included in an adjoining property. A portico R joined to that of the entrance from Rue Tirechappe allowed one to pass under cover from that kitchen and offices into the principal building by crossing the lower landing of the service stairs, thus arriving in the dining hall m. The porter's lodge was arranged at V at the side next Rue Tirechappe. At Y was discovered a well built s sewer, that formerly conducted the rain and waste water under that street. In the second storw the arrangement of the main

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-SERVICE WAS TAXABLE TO THE TAXABLE BY THE PARTY OF THE PARTY OF I AN INSTITUTE IN COLUMN THE STREET WAS ARREST ON THE PART OF too midth of the presses B, and the latter days almisance to was oracley or cabines places in the angle work. The posteros 2 formed in the second story only a single cent dellary from the point S to the could T. That Eallery was abundency lighted from the court, but on the street was only planced by targe swall wandows. The dreat building alone because and ones and earded neal a second accey, served by the two stance ? and N. Tae ostinue of the katenens, offices and postuo 3 had only a dround story. At Y we give a block of the measion do la Tremoulie wash the enture darden and buildings of the offices. The archicecure of that managen are one of the most fraced ul oreavious of the end of the 15 to cer inv. The last tower. the frank statesow, the portions him thate second story, and - ited ent to steppl out of se . octalisma often and transfer And the sale and the sale has been been been and the sale of -bon and assense remained namer and area consequence of the remained one cannot admire too made to this searming architecture was next the same and the same of the same of the same of the contract of the same of the contract of the same of the med all average ages and party described and the cities of the was tord down an 1°40. Todather with the comming of the orange -Ale of morality from the second for the second edf und eron matero for illoo en foy . sociates mater ever appearance of most language on Law and the large appearance of the large party and the they can still be seen built into the left sail on entering. - AND TAXABLE AND LIVE DATE AND THE DESCRIPTION AND AND ADDRESS OF THE PART AND need the tower and the steirray. 1 THE PARTY AND PARTY OF THE PARTY AND PARTY AND PARTY AND PARTY. ese Aran. cio. et don. od No. Verdier 2 Cottote. Vo. 77. everyone knows the mansion of Ollay, that now contains a w waters of estante from the court ages, and study to built to I've and seek not to said spirits outs justiful to some and - ICEPTED AND ALL AND the trippe become our market at at at a line

the building being situated beamen a court and depite. The

building was the same as that of the ground story, the division wall be was omitted, the two rooms L and M profiting by the width of the passage B, and the latter gave admission to the oratory or cabinet placed in the angle tower. The portice of formed in the second story only a single bent gallery from the point S to the point T. That gallery was abundantly lighted from the court, but on the street was only pierced by three small windows. The great building alone between the court and garden had a second story, served by the two stairs E and N. The building of the kitchens, offices and portice R had only a ground story. At X we give a block plan of the mansion de la Tremoille with the entire garden and buildings of the offices.

The architecture of that mansion was one of the most graceful creations of the end of the 15 th century. The left tower, the grand stairway, the porticos with their second story, had suffered butilittle mutilation. As for the facade of the building on the court, it had been much injured, but all the elements of its ornamentation remained in parts beneath the modern stucco. Next the garden the facade was very simple. What one cannot admire too much in this charming architecture was the delicate taste displayed by the architect. The assemblage of the plain and the decorated parts was most happy. All that was torn down in 1840. Together with the commission of historic monuments, we then made the most urgent endeavors to preserve this masterpiece. Yet we could not obtain more than the transfer of some fragments to the Ecole des Beaux Arts, where they can still be seen built into the left wall on entering.

We give (37) the facade of the main building comprised between the tower and the stairway. 1

Note 1.p.284. For the details of this tower and stairway, see Arah. civ. et dom. od MM. Verdier & Cattois. Vol. II, p.

Everyone knows the mansion of Cluny, that now contains a m museum of objects from the middle ages, and which is built on the baths of Julian; that edifice is is of the same time as t the mansion de la Teemoille and presents an analagous arrangement. On Rue des Mathurins rises a crenelated enclosing wall, the building being situated between a court and garden. We borrow from Baron de Guilhermy this summary of the history of that mansion.

Note 2.p.284. See Itiner. orchaeol. de Paris. Paris 1855.

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bonde. This project does not seem to have been followed by execution; for it was only at the end of the 1; to septimity that jour de Sourbon, one of the successors of Pierre de Jess-Les, unter-out the construction of the edifice, which still restains. Then that prelate died in 1815, the foundations seer-

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sete 1.p.286. M. Ou Connererd, sen of the founder of the collection, since 14%8 has been conservator of this museum, which by his intelligent direction, increases doily and is a one of the richest in Surope.

The dive (38) the plan of the froind story of this mapsica. The paiding for decision is larger than that of the mapsical on de la Permonice, but the faction was less expensive. At A is the principal dateon flue is the during-R.-lacques with its nestern A'. The porter's lodge is at P; shor rises a portico of that five entered from the rooms H of the fround story.

The hitchen is at D with its flight of steps and its urivate stairs P, naving also an exist outsile of the kitchen and in the room P of the floor of the kitchen and in the room P'. A noor P affords a direct entered from the court into that kitchen. At I is a room behind on the from the court into that kitchen. At I is a room behind on the

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"In the first half of the 14 th century about 1340, Pierre de Chasles, abbot of Cluny, purchased the site of the pacace of the baths with the intention of erecting there a lodging near the college, that his abbey possessed opposite the Sorbonne. This project does not seem to have been followed by execution; for it was only at the end of the 11 th century that Jean de Bourbon, one of the successors of Pierre de Chasles, undertook the construction of the edifice, which still r remains. When that prelate died in 1845, the foundations scarcely rose above the ground. Jacques d'Amboise, who united the titles of bishop of Clermont, abbot of Cluny, abbot of Jumieges and abbot of S. Alyre, resumed in 1490 the work of his predecessor, and carried it out to entire perfection."

More fortunate than the mansion de la Tremoille, the mansion of Cluny was preserved, due to the collection that Du Sommerard knew how to gather there, and to the European reputation soon acquired by that museum of objects of the middle ages. In 1842 the State purchased that museum and the collection to that it contained, caused to be ceded by the city of Paris the remains of the baths of Julian, and today that entirety has become the meeting place of all that take some interest in matters of the past.

Note 1.p.286. N. Du Sommerard, son of the founder of the collection, since 1848 has been conservator of this museum, we which by his intelligent direction, increases daily and is oone of the richest in Europe.

The building for habitation is larger than that of the mansion on de la Teemoille, but the garden was less extensive. At A is the principal gateon Rue des Mathurins-S.-Jacques with its postern A'. The porter's lodge is at B; then rises a portico C, that gives entrance to the rooms H of the ground story, rooms also entered from the grand stairway F by a little door f. The kitchen is at D with its flight of steps and its private stairs P, having also an exit outside on the floor of the kitchen and in the room H'. A door g affords a direct entrance from the court into that kitchen. At I is a room behind on the garden with angle stairs R, having a door into the garden, o one to that room I and to the corridor f. At K is an open hall, a sort of covered yard under the chapel in the second story.

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recepts and replaced by arought tron angles. A listed starral persits one to descend from the room I into the coverel yet? Yeard to escend directly to the enapel. The derivance of is 75.2 ft. and escenties by about 115.0 ft. long, and responded by privite or occounties. The principal statement of is terminated by a platform readers by a listed screw states statement from the state story. The mansion of Clany, like that of de la fremoilie, proceeded attory, end an attic masset attory. The structures are very well preserved. The old filteriars received the nears are still vitared to a second attory are still vitared to a second of the main bailding man are determined that are massion de la fremoille, yet and the elegant delicacy of the mans of the fremoille, yet and the elegant delicacy of the mansion de la fremoille, yet and the elegant delicacy of the massion de la fremoille, yet

ces, the states are very skilfully arranded and the onabal is a labele massamplece. It has a labele appealed by corbaling on the external plan of the covered vari. Like that yard it is valibed, and its four cross valies rest on a central column. Tig. 39 gives a cavalier view of the managed, taken from one entrance at te.

There still exists at Paris a mansion of the end of the 15 th contary; this is the mension of Sens, which served as a paris. 2 This mension is simused at the prosessed formed by the sense of the prosessed formed by the contact of the prosessed formed by the contact of the prosessed of the contact of the prosessed of the contact of the prosessed of the contact of t

Parus. This mension is situated at the prossing formed by the meeting of hies de l'acord at ville, at Figuer, de l'acorde, des derres and du Feupponier. It was ecected by archbismo or wellown at Salagar from 1475 to 1512. The numerous matilations saffered by it have taken away its pracacust almost on-

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Das still sees oretry mansions of the deminerance and of the

F is a court with entrance O in one of the antique halls of the baths. M is also an antique hall in which were probably placed the stables. The corridor L formerly communicated with the privies. The wall on the street is crenelated and was furnished with wooden defensive gallery borne on corbels now destroyed, and replaced by wrought iron angles. A little stairs S permits one to descend from the room I into the covered yard K and to ascend directly to the chapel. The garden G is 55.8 ft. wide by about 115.0 ft. long, and was bordered by private properties. The principal stairway F is terminated by a platform reached by a little screw stairs starting from the attic story. The mansion of Gluny, like that of de la Tremoille, p possesses cellars, ground storw and second story, and an attic mansard story. The structures are very well preserved. The old floors, composed of girders receiving the beams, are still vi visible, and several fireplaces date from the primitive construction. Although the architecture of the main building has not the elegant delicacy of the mansion de la Tremoille, yet it lacks neither grace oor style. The wendows are happily placed. the stairs are very skilfully arranged and the chapel is a little masterpiece. It has a little apse borne by corbelling on the external pier of the covered yard. Like that yard it is vaulted, and its four cross vaults rest on a central column. Fig. 39 gives a cavalier view of that mansion, taken from the entrance side.

Note 1.p.287. For the details of this mansion, see Statistique monumentale de Paris, published by N. A. Lenoir, under the direction of the conistry of public instruction.

There still exists at Paris a mansion of the end of the 15 th century; this is the mansion of Sens, which served as a r residence of the archbishops of Sens, when they so journed at Paris. This mansion is situated at the crossing formed by t the meeting of Rues de l'hotel de ville, du Figuer, dell'Etoile, des Barres and du Fauconnier. It was erected by archbishop Tristan de Salazar from 1475 to 1519. The numerous mutilations suffered by it have taken away its character almost entirely.

Note 2.p.287. The bishopric of Poris until in the 17 th century was suffragon of the archbishopric of Sens.

One still sees pretty mansions of the Renaissance and of the

beginning of the 17 to contury in some provincial organization of the confidency; that of Vauxinteant at Trayes, which dates from the first years of the 17 th century, is remarkable for the plan and the happy outlines of the buildings. At Toulouse remain still a frest number of mansions of the 16 th century. The work of Du Carcelu (tes relians des viles) presents numbered examples of good plans and of buildings in excellent teste.

If the houses during the 17 to sectory were searcely more than the trace than values for the values of the same for mansions. Space the relates of tears IV. Louis III. Louis XIV. and Louis XV. Paris, Evons. Toalouse, Borderary, Oasi, Mantes, and srise a namber of beautiful mansions, that sould revaid the arrangement of the napations, that seasons is another. Carnaval. The fin (Insertal Library), Pimolan, Sourise (Archives of the fine is a second of the seasons is a second of the seasons.

the second transfer of the principal state in terrance of interior by all PERSONAL PRODUCTION AND ADDRESS AND ADDRES Letter state and a section of a section of the state of t possess the feudal rights of high sea low justice, out win is a landed processor, and who has no other service to pay the SEPTEMBER OF STREET, STATE OF STREET, SECTION OF STREET, STREE country mouse is the habitation of the farmer, colonist, reneor, thereif out the present for the courty to the limit of ear dwellings less frequently than those of the cities, fires Vaccina Uny and poorer, this risings have calle vary liking, are to service and to some transfer and week the st present a TERRETARN AND THE WAY BE WARRED THE AMERICAN IN MALES. TO THE PROPERTY OF lives nearly as one of the 14 th. Thus the more one percents values all careful free ore countries that and calculations -water of annual rate in annual tax annual relation and the symplectic tion that the breaker, in the break territoria, which had been been and he appealed not not to be constructed and the villation of stone setted, they margan wards of Landardso, Jerrich, Abrec. beginning of the 17 th century in some provincial cities. Mansion de Prince at Angers is a charming edifice of the 16 th century; that of Vauxluisant at Troyes, which dates from the first years of the 17 th century, is remarkable for its plan and the happy outlines of its buildings. At Toulouse remain still a great number of mansions of the 16 th century. The w work of Du Gerceau (Les maisons des villes) presents numerous examples of good plans and of buildings in excellent taste.

If the houses during the 17 th century were scarcely more to than vulgar lodgings, in which it is difficult to find a trace of art, it was not the same for mansions. Under the reigns of Henry IV, Louis XIII, Louis XIV and Louis XV, Paris, Lyons, Toulouse, Bordeaux, Gaen, Nantes, saw arise a number of beautiful mansions, that still retain the arrangement of the habitations of the nobles and of the rich citizens of the middle ages and the Renaissance. Mansions Lambert, Carnavalet, Mazarin (Imperial Library), Pimodan, Soubise (Archives of the Empire), are still models of grandeur and of good taste, that depreciates all that has been done in that kind in our days. Because it is easier to acquire wealth than the feeling of grandeur of taste.

MAISONS DES CHAMPS. Country Residences.

As we stated in commencing this Article, the country house should not be confused with the manor house. The manor house is the habitation of a gentlemen, a chevalier, who does not possess the feudal rights of high and low justice, but who is a landed proprietor, and who has no other service to pay the sovereign than personal military service. (Art. Manoir). The country house is the habitation of the farmer, colonist, renter, tenant and the peasant. The country inhabitants renew their dwellings less frequently than those of the cities, first because they are poorer, then because their needs vary little. A citizen in our days has retained none of the habits of his ancestors, while a peasant in the middle of the 19 th century lives nearly as one of the 14 th. Thus the more one descends the scale, the less differences are found between the country dwellings of the middle ages and those of our times. In passing over the country in our French provinces, which have been especially removed from contact with the inhabitants of the great cities, like certain parts of Languedoc, Correze, Auverhave been but slightly addified, and that furnish as very to

ain procedures in construction, that resein all the conscers of a neive art, and if the maserial be cruin and the workmansaid be coarse, the application of the orinoicle is correct and sometimes impressed with that charm attached to the primtuive arts, for whoever knows now to see it. There saill exist

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of preservation of ancient traditions; for it all our outy n nouses resemble each other soday, it is not less so in the country, and the substitute of the country, and the substitute of the country.

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caresives area furnashing some of trose well coeracterized to

Auvergne, Berry, Saintonge, Brittany, Upper Marne, Morvan, J Jura and Vosges, one yet discovers secular habitations, that have been but slightly modified, and that furnish us very p probably by transmission examples of the dwellings of Gallo-Roman country inhabitants.

Indeed in these habitations one recognizes the use of certain procedures in construction, that retain all the characters of a maive art, and if the material be crude and the workmanship be coarse, the application of the principle is correct and sometimes impressed with that charm attached to the primitive arts. for whoever knows how to see it. There still exist in the hiddle of the forest of Morvan certain peasants' houses in which a countryman of the Edui would find no change, if he returned after 18 centuries' and we have even seen on the banks of the Loire and Seine and in the Vosges, peasants living in caves excavated by human hands, which are preserved just as the Roman armies could have seen them. The variety of these country dwellings on the soil of France is one of the proofs of preservation of ancient traditions: for if all our city h houses resemble each other today, it is not less so in the country, and the thatched cottage in Picardy does not at all resemble that in Brittany; the latter essentially differs from the cabin in Morvan, that recalls nothing that of Franche-Comte. Auvergne or of lower Languedoc.

We happened to stop in certain villages in France where each house was built for a single owner, and retained a character of primitive roughness, very far removed from our modern civilization, where all tends to lose its special appearance. We think that we shall be expected to give here the houses of t the peasants classed by certain epochs, as we have been able to do for minor habitations. The transmission of some types accepted for centuries also forbeds that classification. Since we have brought ourselves to believe, that certain provinces have not ceased to erect the same rural dwellings since the epoch of the invasion of the barbarians, it is evident t that we could with difficulty distinguish a house of the 10 t th from another of the 14 th centuries. We shall then content ourselves with furnishing some of those well characterized ty types, without assigning them any precise epoch and the less, because these structures were generally built with the aid of

very enall resources, and bave not need able to resi

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piocks of granice and oierced by livite openings, a very low ground scory serving as cellar, scoreroom, poultry or swine house. Door raised 3.3 ts 6.6 ft. from the ground with a flient of steps and a landing endeadd in the wail: cellar formed of of great beans with joises. Carret scove protected by howy carrentry covered by stone plates called "leves" in the coun-

se; if one wants two rooms, there are two nouses joiist at the dables. No decoration in that nouse, nothing to present a

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Aniorid; sites from accient times replace the neavy scort roofing. Sometimes the external stairs are tastefully arroped at, the landing having from stone rathings; the forsts of the

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see rafters (41). These country nabitations is faceday are order faced attachments and assime certain areas actual forms.

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Note 1.0.291. Between Dijon and E. Seine.

very small resources, and have not been able to resist the e effect of time, have retained tha primitive character only by the repetaition of the same procedures, the use of the same materials and conformity to the same habits. However the oldest rural houses, or at least those that appear to have suffered the least alteration, belong to the provinces of the Centre and the East. In Morvan, the lod peasant's house only presents externally a mass of piled stones. Walls built of great blocks of granite and pierced by little openings, asvery low ground story serving as cellar, storeroom, poultry or swine house. Door raised 3.3 ts 6.6 ft. from the ground with a flight of steps and a landing engaged in the wall; ceiling formed of great beams with joists. Garret above protected by heavy carpentry covered by stone plates called "laves" in the country (40). Each house contains only one room with its fireplaee: if one wants two rooms, there are two houses joined at t the gables. No decoration in that house, nothing to present a taste for even the rudest art. The timbers are scarcely squared. the floor is covered by tamped earth covered by a layer composed of granitic sand and clay. If one approaches Nivernais and upper Burgundy, on the contrary one frequently finds in the houses of peasants traces of art: the lintels of the doors are cut with care, the jambs are well dressed, the interiors are plastered and are sometimes wainscoted to the height of the window sill. The timbers are squared and even chamfered: tiles from ancient times replace the heavy stone r roofing. Sometimes the external stairs are tastefully arranged. the landing having fine stone railings; the joists of the ceilings project on the exterior, forming a cornice and join the rafters (41). These country habitations in Burgundy are often faced with care and assume certain architectural forms.

Note 1.p.290. In these houses of such a poor appearance, it is not rare to find peasant families comparatively rich and possessing very considerable property. Among these peoples, nothing is sacrificed for comfort. Their only preoccupation is to possess land and to amass crowns to increase their little domains.

Note 1.p.291. Between Dijon and S. Seine.

The houses of peasants still well preserved in the village of Rougemont between Montbar and Aisy furnish the proof. These

-court spinstille on passes of a plant the laws to middle once (11), and nearly all nowsess a story over and droand story; out it must be souted, that this village dependen on a rich sobey. Inteed in the vicinity of the religious estmoliganeers the scuses of the country her vere desc built until the if th century, and those nounce are notifically constructed of masonry. Breach " boys that be lack neserned for see. noticetions of the passage around the appropriate establishmeans of the religious was divided in equal parts. "Te oeilsve," sage W. E. Delisle, " "that this rule sar frequently folloved in our province (Vormeniv), weers for a long time too sord "opels" his did the sense of court or hat. To she colonis a were then assigned the lous, usually longer thin mide. from white was the control name of 'long boets'. At one end of the los each one built are not like doors oceastel and eand side on the road, that bacade the street of the village." reaso year of the some end of the Severto of themsens of the THE RESIDENCE AND A SECOND PROPERTY OF THE PARTY OF THE P

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Note 3.p.281. Etudes sur la condition de la classa agrica

Ta sae North, is Normandy and Pistess, the country basinas-

of rood. On one banks of the lower Seine, Orne, Oiver, on the

still visible traces of their special denius. The nouses of

ALER Stray. Covered by thaten or Abaden tiles. If sher some years the old albitetions of those crovinges beath to discovere one to be replaced by shell houses of bruck covered by shates, a dreat number were still to be seen in 1820, that remailest by their construction the capentry of Norway, leament, a and those indicated in the tapestry of Ayenx. The Norman, like all resoles of Standingvia, built boly in Mood, and vect wood carpaties from the epoch when they came to establish the manualives or the course of France. Navidators, under nables.

houses mostly date from the beginning of the 13 th century, and present their gables to the street, are built with remarkable care (42), and nearly all possess a story over the ground story; but it must be stated, that this village depended on a rich abbey. Indeed in the vicinity of the religious establishments the houses of the country men were best built until the 14 th century, and those houses are habitually constructed of masonry. Suenon 2 says that the land destined for the habitations of the peasants around the agricultsral establish ments of the religious was divided in equal parts. "We believe." sams w. I. Delisle, "that this rule was frequently followed in our province (Normandy), where for a long time the word "boels" has had the sense of court or hut. To the colonists were then assigned the lots, usually longer than wide, from which was the common name of 'long boels'. At one end of the lot each one built his hut. All the doors opened at the same side on the road, that bacame the street of the village." That arrangement is observed at Rougement and in many other farming centres belonging to the abbeys during the 12 th and 13 th centuries.

Note 2.p.291. Leges Scaniae. Book IV. Gited by Ducange und-

Note 3.p.291. Etudes sur la condition de la classe agric. en Normandie au moyen age. p.386. Eureux. 1851.

In the North, in Normandy and Picardy, the country habitations, the lot was an enclosure with a house generally built of wood. On the banks of the lower Seine, Orne, Dives, on the shore of the Channel from Eu to Cherbourg, the Normans left still visible traces of their special genius. The houses of the peasants are half timber frames filled with earth mixed with straw, covered by thatch or wooden tiles. If after some years the old habitations of those provinces tended to disappear to be replaced by small houses of brick covered by slates. a great number were still to be seen in 1830, that recall ed by their construction the carpentry of Norway, Denmark, a and those indicated in the tapestry of Bayeux. The Normans, like all peoples of Scandinavia, built only in wood, and were good carpenters from the epoch when they came to establish t themselves on the coasts of France. Navigators, their habitations retained something of naval construction. The manuscripts an ambiblications, that also receil havel structures.

In vorway and Iceland suit arist some of those certainy structures of a conterest social (16 of century), but which recording accurately the form and procedures of a muon cider art. In those haptetions, as on the empresses of the thomatic for example, one notes the kindroses rionly ortamented, the terminate the two ends of the ride, and the connected above the roof by a timber out out like a object of the still saw, in the country of the mure not lond and since single remains of that tradition electly expressed in our fife. 44. Those vorman houses of the 11 th and 12 th centures constitued only a retner high acid lighted on all sides, overed by carootey rudely centures constitued only a retner high acid lighted on all sides, so see middle of the room, and the shock escaped through a rooden duct passaing through the room, and the shock escaped through a rooden duct passaing through the room, and the shock escaped through a rooden duct passaing through the roofing of thick wooden this.

the southern part of sacient Aquitaine, it seems that Celtic tracitions were retained very for into the middle sees. The

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sort of madifications. Dertain hats in Socife and in Privatory indeed have some relations with these, in that the invernal fround is lower than the external soil, and that the roofs covered by thatch descend hearty to the ground. Set that

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ease, in the mountains of the Vostes, near the intle lakes of Guardmer and Retournemer, one sees still the aspitations of peasents, that present all the characters of wooden led

regarded as Saxon in England, and preserved in very great number in the British Museum, present in their vignettes specimen habitations, that also recall naval structures.

In Norway and Iceland still exist some of those carpentry structures of a quite recent epoch (16 th century), but which reproduce accurately the form and procedures of a much older art. In those habitations, as on the embroideries of the tapestry of Bayeux, for example, one notes the kingposts richly ornamented, that terminate the two ends of the ridge, and that are connected above the roof by a timber cut out like a coresting. One still saws in the country of the Eure not long since slight remains of that tradition clearly expressed in our Fig. 43. Those Norman houses of the 11 th and 12 th centuries contained only a rather high hall lighted on all sides, covered by carpentry rudely ceiled. The hearth was placed near the middle of the room, and the smoke escaped through a wooden duct passing through the roofing of thick wooden tiles.

In the provinces of the Centre, like Auvergne, Velay and t the southern part of ancient Aquitaine, it seems that Celtic traditions were retained very far into the middle ages. The houses of the inhabitants of the country were in part excavated in the ground and covered by a sort of pile composed of earth and piled stones on timbers placed radially around a principal beam. An opening made at one side of this pile served as door and window, and the smoke of the hearth escaped by an opening at the middle of the pile. We have seen in the mountains of Cantal habitations of this sort, that appeared ancient, and that were a tradition from a very ancient epoch. It is unnecessary to state that art nowise entered into this sort of habitations. Certain huts in Bocage and in Brittany indeed have some relations with these, in that the internal ground is lower than the external soil, and that the roofs covered by thatch descend nearly to the ground. But these habitations do not assume the conical form externally, they are covered by gable roofs with two gable walls of dry stones or of half timber frames filled with mud.

Approaching the banks of the Rhine, in the provinces of the Bast, in the mountains of the Vosges, near the little lakes of Guardmer and Retournemer, one sees still the habitations of peasants, that present all the characters of wooden log

The second secon

od story and four rooms is the stail (43 bis). The plan A of the of those nodes is taken at the isval of the ground story, and presents at 8 the entrance hall, from which the pares a elastic that the rear room 0, which has the only stairs attended to the second story ander the rect. In the nail 0, lighted at the two ends, assences the captre added for meals and in the events. Also that come is properly the food. A dreat columnly with lamps, back, and it part of the covering passes through the roof. There is not of the covering the made of thies, senies or thin

as avand on a substructure about 7.3 it. nich made of great plocks of sandatone. A partition composed of trunks of trees

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ess on mase three parallel moiden valls. Phose enthaines recenve light only terough the mood a gaple mails. It is difficult to not see in tuese nouses a very amount pression, that approaches the mooden structures of old Smitzerland, so inter-

On the peaks of the Suronne, in Enduerno and Provence are

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linoux, in the midst of droups of consumy trops are seen huld as built in this may, and that are relatively early, i.e., do note from the 15 th constant. Resides, those still erected tonay of anomals are relative to sake, programme.

construction. Low and wide, well built to resist nurricanes and to support snow, they have a strange appearance. Those h houses are nearly always composed of three rooms in the ground story and four rooms in the attic (43 bis). The plan A of one of those houses is taken at the level of the ground story, and presents at B the entrance nall, from which one passes e either into the great hall C or into the rear room D, which has the only stairs ascending to the second story under the roof. In the hall C, lighted at the two ends, assembles the entire household for meals and in the evening. Also in that room is prepared the food. A great chimney with jambs, back, mantle and flue of masonry passes through the roof. That is the only part of the building together with the base, that is not of wood. The covering is made of tiles, schist or thin slabs of sandstone; it is further loaded by stones. The houses stand on a substructure about 3.3 ft. high made of great blocks of sandstone. A partition composed of trunks of trees rudely squared divides the house at the middle lengthwise and supports the upper ends of the rafters. This and the two side walls join the two gable walks, are corbelled out and thus f form the great projections of the roof. A floor of joists rests on these three parallel wooden walls. Those buildings receive light only through the wooden gable walls. It is difficult to not see in these houses a very ancient tradition, that approaches the wooden structures of old Switzerland, so interesting to study.

On the banks of the Garonne, in Languedoc and Provence are found the most graceful rural habitations, those best recalling the country houses of antique paintings. Roman tradition has remained purer in those provinces than elsewhere in France. Those peasants' houses are large and spacious, low, always orientated in the most favorable manner, possess portices or rather open sheds, low so as to shelter the inhabitants in t that mild climate, who devote themselves to their labors outside the house.

In the plains of Toulouse, in Ariege and Aude, the coast of Limoux, in the midst of groups of century trees are seen houses built in this way, and that are relatively early, i.e., da date from the 15 th century. Besides, those still erected today of unburn bricks and pebbles follow exactly the same programme.

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The dystem of bendre as half rectil of fief farms was caseomery in the provinces of Landacase as it is today. The consands holdend those farms as reaters can less that these those
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for several years. It is evin at the those nobeal loans here which on nark conditions for the owner and tended to entich the farmer. Thus in Workenly raral habitations are seen to

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In fact those peoples have always been agricultural and attached to the soil, and have but slightly modified their habits since the 14 th century. Here (44) is one of those rural habitations.

The system of tenure at half rental of fief farms was customary in the provinces of Languedoc as it is today. The peasants holding those farms as renters ran less risk than those
who leased for a term, or who obtained a concession of lands
for a fixed rental, they lived in a more complete state of s
security. This explains the character and comfort observed in
the rural habitations of that country, and also their uniformity for several centuries past.

In the North and especially in Normandy, the system of rental for half, or of a perpetual concession for a fixed rent, was generally replaced after the 13 th century by the lease for a term. The lord retained the property in his lands, and he ceded the use of it to a farmer for a limited time and on fixed conditions. "Several causes," says M. Delisle, "favored the development of that tenure, and they preferred it to a perpetual concession. In the first centuries of feudalism were scarcely known the latter; but men finally perceived that the rent fixed by a lease in time lost the greater part of its va value. This consequence was inevitable, not only from the change in value of money, but also from the change operating in the relation of money to articles purchased. On the other hand, the weakening of the feudal system tended to deprive the lords of the principal means previously employed for utilizing their domains not granted. Thus one conceives how they were brought to treat with the farmers. They relieved themselves of the co cost of cultivation, and were no longer exposed to see their fortunes reduced to rents, whose nominal value was unchanged, but whose real value became more and more insignificant." Even sometimes the lord needed ready money, and received from t the farmer in passing the lease the total amount of the rental for several years. It is evident that these actual loans were made on hard conditions for the owner and tended to enrich t the farmer. Thus in Normandy rural habitations are seen to t take a considerable relative importance and to be modified more rapidly than in any other province.

Note 1.p.297. Etudes sur la condition de la classe agricole en Normandie ou moyen age. p.51. Eureux. 1851.

esco, and that belond to a quite remove ecoch; but these fardlings were occupied by oir sea rather than farmers. There ex-

Here (45) is out of them still entire, built at the entrants of the villate of Genet near Canes, half way up the hill a soft about 2.5 miles from the sea. It consists of a square constant of invite two stories above the fround story with no constant cation with the exterior. The decrease is elevated 9.8 ft. exertor are external soil and was accessible only by mans of a ladder, that could be irrard to easily to avoid troublesome of

to the floor of the second) is picted by six machinelass of the the second has no other opening than the door. From that afory one seconded to

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Note 1.p.292. We ome these lrowings to the courtesy of N.

Tase country bibitations, irranded to a manner to serve as a refuse for some men living isolated and properly evilly with their neighbors, are also found on the mestern consus. One of those best preserved and most important exists has forced on aux (46); is as formerly surrounded by a liven filled with a very. A filtent of 12 state angles in the wall led from the level of this sater to the raised doorway. Perhaps a plank was then across the diten when one desired to enter. That door also save almission to a single room of the second story, furnism a single on and plants by a still window and six slows.

This communicated with the cellar by a trap coenar at the cashing of the room. By taking the screw states was reached to the torry with a fireplace-like the second: stors and a

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On the shores of the Mediterranean one sometimes finds country habitations, that assume the form of a tower or little k keep, and that belong to a quite remote epoch; but these dwellings were occupied by pirates rather than farmers. There exist several of those between Toulon and Cannes.

Here (45) is one of them still entire, built at the entrance of the village of Cannet near Cannes, half way up the nill a and about 2.5 miles from the sea. It consists of a square tower having two stories above the ground story with no communication wit the exterior. The dicorway is elevated 9.8 ft. above the external soil and was accessible only by means of a ladder, that could be drawn up easily to avoid troublesome p persons. The second or rather the third story (for the only communication with the ground story was by a trapdoor placed in the floor of the second) is pierced by six machicolations in the form of hoods and has no windows. The second has no ot other opening than the door. From that story one ascended to that with the machicolations by a miller's ladder. The rope ornament that decorates the lintel of the door indicates a v very early epoch. At Gannet this tower is known by the name of the house of the brigand. The last story is vaulted in rubble under the roof. Also in Corsica are seen a certain number of habitations of this kind.

Note 1.p.298. We one these drawings to the courtesy of M. Merimee.

These country habitations, arranged in a manner to serve as a refuge for some men living isolated and probably evilly with their neighbors, are also found on the western coasts. One of those best preserved and most important exists near Bordeaux (46); it was formerly surrounded by a ditch filled with water. A flight of 12 steps engaged in the wall led from the level of the water to the raised doorway. Perhaps a plank was thrown across the ditch when one desired to enter. That door gave admission to a single room of the second story, furnished with a fireplace and pierced by a small window and six slots.

This communicated with the cellar by a trap opened at the centre of the room. By taking the screw stairs was reached t the third story with a fireplace like the second; slots and a bay were placed over the entrance doorway. 1

Note 1.p.300. These drowings were furnished by M. Durand, architect at Bordeaux.

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each escent tent to be trained to betteve that those nouses dated from the epoch of the trained domination in This oct. Indeed, one sees in the country of Tuffolk in England a small noise (Tennam Bail) built in the same manner, and which dates from the ent of the 13 th century. That structure is a parailelotern with sorem as in a insule tower. The entrance being elevated, it is trained by seeds endiged in the wall.

There should not be outbed eare the neares built in ceremries, the houses of the cross, that were free of outsits sealir jurishistion, and werred as asylars for priering and the
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"essentially differed from the nobles, sapparts." But an oter-

taces, snields and swords. The dwellings of the sate-vasais, and even of the elaest, i.e., of those holding from the local tacts have or less extensive, who united several sub-vasais in their needs, and who remained responsible for the service and rembals of the sac-vassals of the from, could not be remained as manor nouses, because they were not enclosed.

Note 3.p. 200. Etudes sur lo condition de lo closse ofric.

There have been mentioned to us several of these habitations on the coast between Bordeaux and Bayonne and even beyond to S. Jean de Euz. We incline to believe that those houses date from the epoch of the English domination in Guienne. Indeed, one sees in the countyvof Suffolk in England a small house (Wenham Hall) built in the same manner, and which dates from the end of the 13 th century. That structure is a parallelogram with sorew stairs in a little angle tower. The entrance being elevated, it is reached by steps engaged in the wall.

There should not be omitted here the houses built in cemeteries, the houses of the cross, that were free of outside secular jurisdiction, and served as asylums for pilgrims and the sick, and which were placed under the supervision of the religious. These houses were recognized by a wooden cross fastened on the roof.

MANOIR. Manor House. Manor. 2 Note 2.p.300. (Lotin note).

The manor house, although this name sometimes designates a castle, is the habitation of the owner of a fief, noble or n not, but not possessing feudal rights allowing him to erect a castle with towers and keep. But the manor house is closed and it can be enclosed by walls and surrounded by ditches, but not defended by towers, high crenelated curtains and a formidable fort. The manor is a coun ry house, from the architectural point of view, placed between the feudal castle and the house of a vassal, a class superior to that attached to the feudal lands, a free man. "These sub-vassals," says M. Delisle with regard to the position of this class in Normandy, "Essentially differed from the nobles, who only held their fiefs by good faith, homage and military service." But in certain lordships, they owed military service, mounted, armed with lances, shields and swords. The dwellings of the sub-vassals, and even of the eldest, i.e., of those holding from the lord lands more or less extensive, who united several sub-vassals in their hands, and who remained responsible for the service and rentals of the sub-vassals of the group, could not be regarded as manor houses, because they were not enclosed.

Note 3.p.300. Etudes sur la condition de la classe céric.
The manor house is sometimes only a house of small extent,

197 suprounded by ralla and with a terion; more Precedity th and the other property of the party of the p As consistent and get continue distinction in the case courter the proprietor. The villas of the kings of the Tiret race of The lates we produce the contract that the contract to is an century the great covereign locus in Frauce, besides & while that the property of the ed to sreet pleasure houses to dive tremalres to the pleasure res of the chase, or no reside for a centain time; those bousss may be regarded as manor nouses. "say royal abbevs possesand mittarn their anciouses means nouses, to match oringes on ocas to rest from affairs. (Art. Architecture Vocastinat). T The pleasure notice of Brostro near Paris, or rather of Vincinscar. I maich was burned by the people in 1411, was a frent m seems upper any security altered a paint profess other seems

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constry houses of the 13 th, 14 th and 15 th centuries; but

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surrounded by walls and with a garden; more frequently it is a collection of buildings devoted to agriculture, enclosed by ditches and wit: a principal building for the habitation of the proprietor. The villas of the kings of the first race of the kings were rather manor houses than castles, and until the 16 th century the great sovereign lords in France, besides t their castles, that were veritable strong places, were pleased to erect pleasure houses to give themselves to the pleasures of the chase, or to retire for a certain time; those houses may be regarded as manor houses. Many royal abbeys possessed within their enclosures manor houses, to which princes ca came to rest from affairs. (Art. Architecture Monastique). T The pleasure house of Bicetre near Paris, or rather of Winchester. which was burned by the people in 1411, was a great ma manor house rather than a castle, although it had one tower. Under the kings of the third race Fontainebleau and Blois were likewise great pleasure houses, that had the character of the manor house.

Note 1.p.301. Because in 1204 it had belonged to John, bishop of Winchester. (Sauval, Antia. de la ville de jaris. II,72.
Note 2.p.301. The ruins of the monor house of Bicetre are
seen in an engraving representing the ballet given by the count of Soissons at the Louvre in 1632. Connt Horace de Vielcastel has furrished us with precious data on this subject.

England has preserved a very considerable number of these country houses of the 13 th, 14 th and 15 th centuries; but in France we know none, that are entire and date beyond the 1 15 th century. The manor house, properly so-called, always contains a hall like a castle, and in England the name of manor house has been retained. In fact in these residences the hall is the important part of the programme until the 15 th century.

In the 12 th century king Richard of England had at Southampton a manor house, that served as a gathering point at the t time of embarcation. That building consists of a hall, a chaper and a cellar. A private chamber was often placed beside the hall.

Kote 3.p.301. Dom. arch. of the 12 th century, by Hudson T Turner, Larker. Oxford. 1851.

The name of manor house is sometimes applied to the house

enclosure. (Nia Franch nosm).

Rote L.p. 201. Pomon du Hanort. Verse, 6886.

The arrandement of the older nouses at the end of the 10 th consensury and furing a pert of the 13 th, was the same in Trante and in England. The achevof S. Maur possessed at Didle dear 90888y-s-Lifer a matter bouse on which depended 32 acres of visional asyard with two presses and 10.5 acres of forest. Accor Pierre

so be rebuilt in pert; there by his order was built the chapel, a nall with cellar beheath, and a lodding surrouned by walls and wide ditones. I yet from the 13 an century the distinction behaven the castle and the manor nouse as less sharp in England than on this side of the Grannel, wany of the distinct

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saases nariner tower nor keep. The surondest castles in Engl-

ses, such as goscy, for example, water explanation tassernel

Note 1.p. 302. Hist. au aice. de Paris. Lebeuf. XIV.p. 321.

state of the country after the 13 to century.

\*averal casulas of Salanne, built unser that demination of the Rhelish, sithough retaining in their lettils ill one oner-

and deginated of the 14 th conturies, present that deciliarity of reciling the arrangements of the Argustan Anglo-Vorman manur nouses. To despite assured of this, it suffices to look over the excellent work on those edifices published by M. ever and contine with enclosures, idence of flooking town.

malls, outer diteres. Freedulir plans like this of the Ponch ville, services senerate from each other and forning many str-

of a guest, or a colonist, when that house is surrounded by an enclosure. (Old French poem). $^4$ 

Note A.p. 301. Roman du Renart. Verse 8893.

The arrangement of the manor houses at the end of the 12 th century and during a part of the 13 th. was the same in France and in England. The abbey of S. Maur possessed at Piple near Bossy-s-Leger a manor house on which depended 33 acres of vineyard wit two presses and 10.5 acres of forest. Abbot Pierre I about the middle of the 13 th century caused the manor house to be rebuilt in part; there by his order was built the chapel. a hall with cellar beneath, and a lodging surrounded by walls and wide ditches. 1 Yet from the 13 th century the distinction between the castle and the manor house was less sharp in England than on this side of the Channel. wany of the English o castles of that epoch would be for us great manor houses because they do not have the defenses, that constitute a castle with us. The castles of Aydon (Northumberland) and of Stokesav (Shropshire) 2 would in France be classed among manor houmes, and that of Aydon in particular is one of the most complete and largest that can be seen. It comprises a principal building of three stories with wings, courts and a garden enc losed by good walls. This manor house is crenelated, but possesses neither tower nor keep. The strongest castles in England wit rare exceptions retain the appearance of a country house, which distinguishes them from our great feudal residenees, such as goucy, for example, which explains the internal state of the country after the 13 th century.

Note 1.p.302. Hist. du dioc. de Paris. Lebeuf. XIV.p.324. Note 2.p.302. Dom. arch. of 13 th century. Chap. IV.

Several castles of Guienne, built under the domination of the English, although retaining in their details all the characteristics of the French architecture of the end of the 13 th and beginning of the 14 th centuries, present that peculiarity of recalling the arrangements of the great Anglo-Norman manor houses. To become assured of this, it suffices to look over to the excellent work on those edifices published by M. Leo Druyn. Square building with enclosures, absence of flanking towers, buildings pierced externally, lower courts enclosed by walls, outer ditches. Irregular plans like those of the Roman villa, services separate from each other and forming many str-

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ifficulty code true principles of modern life. To froily recommon that the the true principles are our matters in the metter of comfort (they invented the mora), and we repeat in all topes, that the architecture of the middle ages cannot lead itself to our modern mabits. There is one of these almetric contraints.

Note 8.9.302. to Gutenne militaire, etc. by lec prapa.

Appeary in the casties of the millie ages is recomment the fifferent services passoy the proper blaces, its incorrection without the archibects being otherwise occupied with questions of symmetry. Rut in the coultr military

rodify certain mabits of well-perod (frt. norsan); it is not

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occin, secoloc, wide orders, bakenouse, lorgings for elekis or coloniars, the whole englosed by a well or a desp ditor.

In the 14 th century the manch house thier is and according to resemble a castle, has sevent amoveds, and the services occurs complicated. At the end of the 15 th century the error house often assumes the amoonwhise of the century the error as the defences consisting of alleges consistents. Pleasis-les-loars, industried by Louis XI, was only a frest manor nouse, and its rest defence consistent of a thorough mater over the exterior, that keet asin initedicated and suspected persons. Then are there found to:

centuries. In the 15 th century many little castles d

structures. The English have retained in the arrangement of the country houses, that they build today, those traditions of the middle ages, do not find them bad, and apply without difficulty those true principles of modern life. We freely recognize that the English are our masters in the matter of comfort (they invented the word), and we repeat in all tones, that the architecture of the middle ages cannot lend itself to our modern habits. There is one of those numerous contradictions in judgment, that we make in France in art matters.

Note 3.p.302. La Guienne militaire, etc. by leo grngn.

Already in the castles of the middle ages is recognized that the different services occupy the proper places, assuming their relative importance without the architects being otherwise occupied with questions of symmetry. But in the castle military reasons often impose arrangements, that must oppose or m modify certain habits of well-being (Art. Chateau); it is not so with the manor houses. There it is only necessary to satisfy the needs and tastes of the owner; the question of defense is accessory; the manor house is only a country house sufficiently enclosed to be protected from a sudden attack by some adventurers, and it does not pretend to resist a regular siege. Simple during the 12 th and 13 th centuries, like the habits of the landed proprietors of that time, the manor house then possesses only a hall with a cellar beneath and a small added apartment: about it are grouped some rural buildings, barns, stables, wine press, bakehouse, lodgings for guests or colonists, the whole enclosed by a wall or a deep ditchia

In the 14 th century the manor house extends and attempts to resemble a castle, has several stories, and the services become complicated. At the end of the 15 th century the manor house often assumes the importance of the castle, excepting to the defenses consisting of numerous towers, advanced works a and high curtains. Plessis-les-Tours, inhabited by Louis XI, was only a great manor house, and its real defense consisted of a thorough watch over the exterior, that kept awaw indiscreet and suspected persons. When artillery became a means of attack against which mediaeval fortifications were found powerless, manor houses arose in great numbers because men found daily the uselessness of costly defenses built in the preceding centuries. In the 16 th century many little castles demolished

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prought into France by the pushons, by the centralization of cover, by the merkening of satistic, into country restingness, addifications that to called to called the castles by the near reast. The castle of produce itself in Angland. In that contry the country the country hapitation, from a very early access assumes the socreture of the matter access assumes the socreture of the matter to socreture to socreture of the country carry early access to socreture.

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fle-in-Prance, Labours, Susspans and Reduvoisors, that one finds some traces, such as soilars, substructures and inclosures. We shall discribe several rapor houses stall enect, and will

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their useless towers, pierced the curtains externally, and were thus converted into manor houses. Those modifications brought into France by the customs, by the centralization of power, by the weakening of feudalism, into country residences, modifications that tended to replace the castles by the manor house, had no reason to produce itself in England. In that c country the castle is only a strong place; the country habitation, from a very early epoch, assumes the appearance of the manor house, and still retains it today.

There no longer exist in France those manor houses of the 13 th and 14 th centuries, such as are still seen in England; the wars of the 15 th and 16 th centuries overthrew a great number of them, for those residences could not defend themselves against armed bodies. In the last century the love of novelty caused the destruction of a vast quantity of those country dwellings. Some of the most substantial were alone preserved, by approaching the defensive arrangements of the castles. As for open manor houses, and what would be country houses for us, it is hardly in some farm houses of champagne, Burgundy, Ile-de-France, Laonnais, Soissonais and Beauvoisois, that one finds some traces, such as cellars, substructures and enclosures.

We shall describe several manor houses still erect, and will enter into some details relating to the constructors of those dwellings. Charlemagne caused the building of two palaces "of remarkable work," says Eginhard, 1 the first not far from Mentz and near the land of Ingelheim; 1 the other at Nimeguen on the Vahal. After the example of the emperor and under the Carlovingians, the habitations constructed by the great proprietors adhered to the Roman villa. But as the feudal system was constituted. the country habitation was coverted into the strong place, and it was hardly in the 13 th century under the reign od Louis IX, that the royal power was strong enough to regulate the construction of the habitations of the landed proprietors. On that subject the Olim furnishes as with much information. We see that the Barlement intervened to prevent the knights and squires from fortifying their residences. 7 Within the feudal organization several motives arrested the too great development of fortified habitations, even obliging the g great barons in certain cases to content themselves with manor houses. "Powerful lords often for certain fiefs held from

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Note 2.p.304. The monor house of injechelm and that of Minoguen were rebuilt in the form of costles by Prederic I. Ernotdus Misellus gives the description of the poloce of Ingelielm.

Books IV and V. It resembled a homon villo in general arrangements.

Note 8.p.80%. Here is an escape:- "Attenne de Beziac, sour ire, built a fortifică nouse, os it is said on Mt. Apois. The scoot of Cluny opposes it, claining that this sauire could n not build in that place on occount of certain agreements made

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why the obbot demanded the destruction of whot he had built in that place, and that the revire should be enjoined to not

that the aboot should not be heard on that subject, and that his nie hotitation should not be destrouse; he added that he had not erected a fortress, that he did not hold from the aboot, that from time immension he and his predecessors had possession of that mountain as of his "aleu", together with the warren and other dependences. In brief, hoping heard the reasons of the two porties, and having learned from the partief of M

ond that several nobles and other persons protested and oppose sed on their purt, what had been built in that place, because

lords, that in the hierarchical order of scoiety were much i inferior to them; thus the duke of Burgundy was a vassal of the bishop of Langres in regard to the fief of Chatillon. The Those great vassals could then take their cases to the tribunals of those lords, when lawsuits arose, either on account of the fiefs held from them, or in regard to any misdemeanor committed on the territory of those fiefs. That jurisprudence we was too simple, toommuch conformed to the custom of the fiefs, never to have been contested. But the complainants, when they had as opponent one of the great barons of the realm, and for judge a lord unable to cause his decrees to be executed, and consequently to decide with independence, addressed themselves to the king's court, and demanded that the criminal be held to reply before it, as a direct vassal of the cown."

Note 1.p.303. Vita Karoli imperator. Ghapter 17.

Note 1.p.304. At 10 miles southwest of Mentz.

Note 2.p.304. The manor house of Ingelheim and that of Nimeguen were rebuilt in the form of castles by Frederic I. Ermoldus Nigellus gives the description of the palace of Ingelheim. Books IV and V. It resembled a Roman villa in general arrangements.

Note 3.p.304. Here is an example: - "Etienne de Beziac, sauire, built a fortified house, as it is said on Mt. Avoic. The abbot of Cluny opposed it, claiming that this squire could n not build in that place on account of certain agreements made formerly between their predecessors, and also because it was detrimental to his church and the entire country; that was w why the abbot demanded the destruction of what he had built in that place, and that the sauire should be enjoined to not build there henceforth. On the other hand, Etienne replied that the abbot should not be heard on that subject, and that his habitation should not be destroyed; he added that he had not erected a fortress, that he did not hold from the abbot, that from time immemmorial he and his predecessors had possession of that mountain as of his "aleu", together with the warren and other dependances. In brief, having heard the reasons of the two parties, and having learned from the bailiff of M Macon, that this mountain was already very strong in itself, and that several nobles and other persons protested and opposed on their part, what had been built in that place, because

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could no lessor exect on to one of those, fortified habitatload, which would have fominated the country; he are compolled to content bimself with a simple memor noise, to which
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and the right of the second of ried towers, ourtains and keep, as fists possessed the feedat rights, rights of her the should others, for we sed thit a meanly aimays werrens beloided to one manor mades; non the warran, as proved by W. maambaniere, was the exclusive ridor to mune over the innie of the vasasis, and not the right of ranging raceus in certain places. Wet one decrees of parisment and aimitted in principle, that the right of estabtisning new colts, new warrans and hem fieb ponts coloneed to the kind show that on the one hard, the king by his order of are bariland and , slowers as nuch as commiss, and building of corellies conclos, and on the consultance and concerns to inc richts forest to the inties, marked and tolie, and though -1886 ancadassado sucreto yo assallordas neso fos sas grasit ses the monatering of a fiel dis mor courty the prereservoy of the acciliar, and if communers porchased a first or a circ of a fief, water frequently occurred effer the 13 th century, casy could not puilt a casile or fortified residence trane; disputes often erose botween a lord and ous vessel rolating t to the astare of the structure erected by the latter; many m and ever of the selieso elements of Schooler sealed remain place of a defense, after the teme in particular when the ro-

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a (strong) house could cause the country great injury, it was decreed that the sauire Etienne de Breziac could not erect a house of that sort on the mountain designated." (Arrestat in pallam. 1284. Arr. 6).

Note 1.p.305. Doc. ined. sur l'hist. de France. I series. hist. polit.

By that intervention of the king's parlement in suits between vassals, an intervention caused by the royal bailiffs, a great lord possessing a fief held from a less powerful lord could no longer erect on it one of those fortified habitations, which would have dominated the country; he was compelled to content himself with a simple manor house, to which it was well understood that he could give all the importance of an actual castle, if he so desired, but not as a strong p place. Also at that moment when feudalism was seriously attacked. i.e., in the reign of Louis IX, that were built so many great manor houses in France. These manor houses although not having the visible signs of the feudal habitation, i.e., fortified towers, curtains and keep, as fiefs possessed the feudal rights, rights of hunting among others, for we see that n nearly always warrens belonged to the manor houses; now the warren, as proved by M. champanniere, was the exclusive right to hunt over the lands of the vassals, and not the right of raising rabbits in certain places. But the decrees of parlement bad admitted in principle, that the right of establishing new tolls, new warrens and new fish ponds belonged to the king alone. Thus on the one hand, the king by his organ of the parlement opposed, as much as possible, the building of fortified castles, and on the other refused sanction to the rights dearest to the lords, hunting and tolls, when those rights had not been established by previous possession. Besides the acquisition of a fief did not convey the prerogatives of the nobility, and if commoners purchased a fief or a part of a fief, which frequently occurred after the 13 th century. they could not build a castle or fortified residence there: disputes often arose between a lord and his vassal relating t to the nature of the structure erected by the latter; many m manor houses pretended to resemble castles and to take the place of a defense, after the teme in particular when the reined great barons were compelled to alienate their properties. To was so that direing the 14 th and 15 th cobedities France

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Note A.p. 305. Vivarios or Viorias were sactosed or not, in

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reon the 13 th oscient toe parks of the Gerone, Dordodes, for, dees, Tare and Aveyrop, saw serse a frest number of these shelosed manor nouses suited for dedeas; indeed in those ony-inces the field ware much divided, and after the war of the Albigenses, the frest barons of the rained southern provinces were reduced to powerlassness. The soil was covered by propri-

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Phose enclosed manor houses in the Sordylaus are designated by the name of "constants, and are still very common.

Not far from Sorieaux, at the entrance of the Laudes is a

of great interest; this casters of 5. Veiard-en-Bille. The Jalle is a stream this has its source at that place called

read of the forest, and that runs into the Peronie.

the manor house of S. wenerd is could be take tidet book of vas soream, watch at that point widens and forms a marsh. A wide catch surcounds this fortified hipitation, whose plan

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drawn soners with four little towers at the anales. The foother is at A and two slows open in each slip of the draind story, whose soil is reised little above the level of the merga. At the origin tothe soners entitles accounted a worse surresure, whose fastenings are still meen on the in erial relie. Increase of the ine one walls 0 0 of a later epoch, there were four

It was so that during the 14 th and 15 th centuries France was covered by manor houses, that could protect their occupants against the armed bands scattered over the territory, and that many houses of the proprietors of fiefs became posts sufficiently fortified and enclosed to disquiet the country, and add to the causes of disorder of that time.

Note 2.p.305. De la pripriete des eaux courantes. Paris.
1846. p. 86 to 97.

Note 3.p.305. On this subject see a droree of 1317. Les Olim. Vol. III. part. 2.1817. en. 65.

Note 4.p.305. Vivarias or Viarias were enclosed or not, in which were raised small animals and particularly rabbits.

from the 13 th century the banks of the Garonne, Dordogne, tot, ders, Tarn and Aveyron, saw arise a great number of these enclosed manor houses suited for defense; indeed in those provinces the fiefs were much divided, and after the war of the Albigenses, the great barons of the ruined southern provinces were reduced to powerlessness. The soil was covered by proprietors nearly equal in power and wealth; the English domination, far from changing that state of affairs, on the contrary saw in it a promise of security for itself and of prosperity for the country.

Those enclosed manor houses in the Bordelais are designated by the name of "casteras", and are still very common.

Not far from Bordeaux, at the entrance of the Landes is a manor house that seems to belong to the first half of the 13 th century, and which retains traces of internal arrangement of great interest; this castera of S. Medard-en-Jalle. The Jalle is a stream that has its source at that place called head of the forest, and that runs into the Garonne.

The manor house of S. wedard is built on the right bank of the stream, which at that point widens and forms a marsh. A wide ditch surrounds this fortified habitation, whose plan we give at the level of the ground story (1). This plan is dr drawn square with four little towers at the angles. The doorway is at A and two slots open in each side of the ground story, whose soil is raised little above the level of the marsh. At the origin this square enclosure surrounded a wooden structure, whose fastenings are still seen on the in ernal walls. Instead of the two walls 0 0 of a later epoch, there were four

stairs parmitted ascent as the ascend story. This fround story nad no note than 8.7 ft. between floor and osiling.

Is were a mezzanine for part of the area as proved; 1, by thome restant as of the joiss and the truce of the poor frinks; 2, one narrow windows E E's" are donbled in the neighbour of the abory and are separated by lintels; 3, the ereat windows C O' occaby the entire neighbour of the atory, are wide and divided in with by a militor. That mearanine was of sold, supported by the lower ports and those and d'. Farther that timber our tion adoptied and ovoie roofs, as we shall see presentative. A worken steirs P allowed access to the messanine. The descent as all R and 14.1 ft. between floor and ceiling, and each assent about 2 for the descent as a figure and ceiling, and each assent about 2 for the descent as the first see that the descent as a figure about 7.5 ft.; so between floor and ceiling, and each assent about 2 for the floor and ceiling, and each

and joists, rose to the lavel of the hoose lamer defensive

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great wooden posts, that supported the floor of the second s story, partitions and a half timber dividing wall. A wooden stairs permitted ascent to the second story. This ground story had no more than 8.7 ft. between floor and ceiling.

The second story (2) presents a very curious arrangement. It was a mezzanine for part of the area as proved; 1, by the fastenings of the joists and the trace of the door frames; 2, the narrow windows B B'B" are doubled in the height of the s story and are separated by lintels; 3, the great windows C C" C" occupy the entire height of the story, are wide and divided in width by a mullion. That mezzanine was of wood, supported by the lower posts and those at d d". Further tha half timber partition supported the double roofs, as we shall see presently. A wooden stairs P allowed access to the mezzanine. The g great hall R had 14.1 ft. between floor and ceiling, and each mezzanine about 7.5 ft.; so that the floor above that great hall and that over the mezzanine, including the depth of beam and joists, rose to the level of the upper inner defensive gallery.

Indeed in calculating these heights: --

The mezzanine story	7•55
pepth of floor	0.98 Total 17.06 ft.
Mezzanine story	7.55
Refth of floor	0.98
Height of great hall	14.11
Beam and corbels	1.97 Total 17.06 ft.
Joists	0.98

The screw stairs N ascended from the floor of the great hall to the defensive gallery protected by a crenelated parapet. I are fireplaces and K are cupboards. At L are outside privies with soil duct indicated on the plan of the ground story.

We give (3) a perspective of this manor house taken from the entrance side. The masonry is entire except the crenelated parapets, of which only fragments remain. All woodwork has been burned and has left numerous traces. The roof was probably d divided into two, according to the habits of the constructors of that time, and contained lodgings of half timber work on the level of the defensive gallery, as indicated by our view. On the front four square holes arranged in the structure above the entrance were intended to receive a projecting defensive

sallery, to shich one descended from the inner sallery. We ha-

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and that the naif traber acrk or rather the lower nonets nust have been replaced. For it that to ou 15 th century mere built the two walls shoun on the plan of the ground story.

note 1.p. 202. See Northe our le costera pres de 3. Meitri-en-jolle, by M. Dumont. 1889. (Becuell de l'ocodeste royale de Bordeoux. Lecture of 7ec. 21. 1879.

(and of 13 to or obdinated of 14 to secoures), took resembles in its arrangement took of 3. Wedard-en-Jaile, but in spice of as assenty ass replaced too inversal mooden partitions; one is

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sed into the total date of the cons, or smally niceed only by slow into the total and date. At the seasons slow into the total and date. At the seasons of the constant of the

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could only serve as a storehouse for provisions, or as a refase in time of war. The sacond story (see plan B) was designod for napisation. It is divided into five coorswith a very i

have fireplaces I. In room L opens a sacateolisted M to cover the entrance doorst. The mine the rooms L and W one passes into the task and anole tower P containing the priving, in into the passes as farmished with slots that strike the fireh beside the entrance. Two roofs placed on the side walls and on the division

with bestlements on its four fronts. Alots pierced in the waten towers defend one sugles and fienk was fronts. The rooms of the second story were lighted by narrow windows, now repla-

the time to expend the property of the application of the contract of the cont

gallery, to which one descended from the inner gallery. We hahave presented one of the frames of this outer gallery set in place. This method consists in enclosing a wooden building by a fortified wall of stone, and is curious to observe, for we see it employed in many of those square keeps of the 1<sup>M</sup> the century such as that of Loches, for example. It is to be presumed that the half timber work or rather the lower posts must have been replaced, for in the 14 th or 15 th century were built the two walls shown on the plan of the ground story.

Note 1.p.309. See Notice sur le costera pres de S. Medarden-Jalle, by M. Bumont. 1839. (Becueil de l'academie royale de Bordeaux. Lecture of Reb. 21. 1839.

There still exists in Gironde a manor house of a later epoch (end of 13 th or beginning of 14 th centuries), that resembles in its arrangement that of S. Medard-en-Jalle, but in which m masonry has replaced the internal wooden partitions; this is the manor of Gamarsac; situated on quite a high point, it dom inates the mouth of the Dordogne, and was formerly surrounded by ditches. The entrance of this manor house (4) was at C and was protected by an external gate placed at right angles to t the front wall. The door opened into a first hall D with stairs ascending from the bottom. From that first hall one passed into the three other rooms, originally pierced only by slots intended to strike the ditch. At G is an arch that bears the partition built in the second story. This ground story could only serve as a storehouse for provisions, or as a refuge in time of war. The second story (see plan B) was designed for habitation. It is divided into five roomswith a very i ingeniously arranged central communication. Four of these rooms have fireplaces I. In room L opens a machicolation K, to cover the entrance doorway. From the rooms L and M one passes into the angle tower F containing the privies, and into the passage furnished with slots that strike the ditch beside the entrance. Two roofs placed on the side walls and on the division wall cover this castera, which was crowned by machicolations with battlements on its four fronts. Slots pierced in the watch towers defend the angles and flank the fronts. The rooms: of the second story were lighted by narrow windows, now replaced by modern windows. This castera or manor house was an actual keep and offered a very safe refuge. Fig. 5 gives the perDESCRIPTION AND DESCRIPTION OF PERSONS ASSESSED. SALES PROCESSED

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oux, architect at Fordeaux.

(Vorenumoerland). In 10 oerboin that these costeres were only ied by a well or direb; it was the hapitation of the possessor of a fiet. During the 14 th and 15 th sentimes the minor noises adoot more frankly the arrangement of a condity hapitation, even in the southern provinces, thus at Tainbrailles near Nerso, one avilt sees the outse entire remains of the manor noise there was born the sentence of attains after the first years of the 15 th century (6). In commisting of a builty or lawer souther 3 now occurry (6). In commisting of a builty or lawer south 5 now occupied by modern outsing the room A leading to the manor noise divers a surrance noise that court oy a first eath A. Passing o

or a contaru. From the percase from the date one enters the room ?, mere was the footherper or a duard at need. The fre-

ATTEMPT OF THE PARTY OF THE PAR

At the left is acceser freet and I I into which one calves by passing over the lower landing of the fraud stairway 7. At B is a likele keep at external stairs W and internal sores stairs. The keep is only connected to the two main buildings of our stairs, now analyse whom the case the careacter. Thise two outlaines are only defeated by battlessins at the angles. The base is raif and by four watch tarress at the angles. The name a node H is surrounded by earders at the angles. The sharp hands

osrt a b cenind the drend stairway and the right hand building, this has been demolished, and whose foundatelossions are now

a tall trees passed in the restrict of the last of the

Raintrailla, taken from the gardens.

in 1815 by the morquis of Lastinos. ~

perspective view of this fortified habitation, taken from the entrance side. 1

Note 2.p.309. The tower E is well as the watch tower F were modified in the 15 th century; preater dimensions were given to them.

Note 1.p.311. These arounds were furnished to us by #. 41-aux. architect at Fordeaux.

In England some manor houses of the 1, th century present arrangements nearly similar to these, notably that of Belsay (Northumberland). It is certain that these casteras were only the principal building of a group of rural structures surrounded by a wall or ditch; it was the habitation of the possessor of a fief. During the 14 th and 15 th centuries the manor houses adopt more frankly the arrangement of a country habitation, even in the southern provinces. Thus at Xaintrailles near Nerac, one still sees the quite entire remains of the m manor house where was born the celebrated Pothon. This manor house dates from the first years of the 15 th century (6). It consists of a bailey or lower court B now occupied by modern buildings. The road A leading to the manor house gives a entrance into that lower court by a first gate A'. Passing o over a ditch, one enters the internal court E by a carriage or a postern. From the passage from the gate one enters the roomsF. where was the doorkeeper or a guard at need. The great hall as at G and the kitchen at H with a door to the court. At the left is another great hall I into which one enters by passing over the lower landing of the graud stairway K. At L is a little keep wit external stairs M and internal screw sstairs. The keep is only connected to the two main buildings by curtains, now enclosed within the recent structures. These two buildings are only defended by battlements at the base of the roof and by four watch turrets at the angles. The manor h house H is surrounded by gardenssat the left side and behind the keep. Thismentirety is it eponelia preserved; except the p part a b behind the grand stairway and the right hand building, that has been demolished, and whose foundateiosalone are now perceived. Figuratives a perspective view of the manor house Xaintrailla, taken from the gardens.

Note 1.p.813. Part of this manor house was still occupied in 1843 by the marquis of Lusignas.

cangular sense, narrow and orowest by 4 machisolations served as an orasory in the drouged energy and water to the top its further commanied the energiance. Vanitiet in the 17 to consury, and again more recently, the innacited buildings have lost t

Hote 2.9.313. The moner house of Launay, which was the res-

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E mere probably lower and enclosed the internal court D. In the 16 th couldny allows were pierced in the exterior of the old building; the interiors sets routit, and buildings nor almost entirely denolished rose at B and F; the diches were

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and to take sway their coaracter as fortresses.

The 16 to outlary creesed a outsity of menor bouses of the reins exist. Ve shall old and a coners was manor house

Near Nesles are still preserved the remains of a pretty manor house of the end of the 16 th century. It was surrounded by a polygonal enclosure with ditch and defended gate. A rectangular tower, narrow and crowned by 4 machicolations served as an oratory in the ground story and watch tower at top; it further commanded the entrance. Modified in the 17 th century, and again more recently, the inhabited buildings have lost to their character, and only show plastered walls: they serve today for the cultivation of the surrounding lands. (8).

Note 2.p.313. The manor house of Launay, which was the residence of Santeuit.

In vignettes of manuscripts of the 15 th century, one sometimes sees manor houses very well drawn, that recall the arrangement of those just given in the last place, and they give a collection of structures grouped without symmetry, but according to the needs of the inhabitants.

Many of those manor houses of the beginning of the 15 th c century and tolerably defended were opened in the 16 th, their external walls were pierced by windows, and the ditches mere partly filled and replaced by terraces.

Such is the manor house of Sedieres, a view of which is given (9). This manor house was built during the first years of the 15 th century, and is composed of the square tower A, the main building B and the porter's lodge 6. The other buildings E were probably lower and enclosed the internal court D. In the 16 th century windows were pierced in the exterion of the old building; the interiors were rebuilt, and buildings now almost entirely demolished rose at E and F; the ditches were filled at the garden side. Thus those manor houses of the middle ages, whose first possessors had built fortified residences, were changed in the 16 th century into pleasure houses, of their ancient character only retaining machicolations that had become useless, and portions of the ditches before the doors.

The chateaus of Rambouillet, Nantouillet near Paris, Rochefoucauld in Angoumois, Villers-Gotterets and Compeigne, were only manor houses under the reign of Francis I, by reason of the work of adaptation executed to open them to the exterior and to take away their character as fortresses.

The 16 th century erected a quantity of manor houses of which ruins exist. We shall cite among others the manor house

making the carry to dispersion and all of their ages and the water of the second of the sec ille," soys 4. Vites in all expollent araber of piscos, "the ancient domain of the family of Louisuit; and beauty of the causery, the violanty of Discos, led at a to demotive the oid ources and outld for anneal a manor house in modern savie atner his back. That is been never nowed it show and the some parlurade conversed rate firm builtings, out snich by an old ousyom, the reasontants of the connery know and designate only of the asse of the content." Tars wands acuse and conside scapta extent, since this could receive king Francis I in it. and as we have already assend, one ready nouseautablaced the cancles in the it to contiev. Acay-le-Piscai, Verilant, onenonceaux uni Amet, by their arrangement and purcous belond to magor bonnes raster tain to contents, and singularly approach d fo miles ville. The symmetrical observate set such as -ocsait of secon roter and to amount that the best VIV sinci ase, since from that evoca simple country access have soldate. so copy on a small scale toose conderous and regular masses, and in France parvioularly distinctuish the coaseau of the a and of the 17 th seathry from all napitations of the presented 

ears of the 17 th captury, such as Richellen, Coulomaiers, W

sy, test ears those princely miditarions, and that reflects the occad existence of the locks of a powerful country, who is not need to such themselves within their resuscences, like has become of the midite ages; that amplitude and majorty bearing related to the proportions of the drelling of a citizen

our norsebore to England knew beerer box to keep the scale, and their little country houses are food today, the dwellings

a diminitive of a casteau.

Kote 1.p. 218. Wistoire de Dieppe. Port IV. p. 151.

ATTILL THE STREET OF THE PROPERTY AND ADDRESS OF THE PROPERTY ADDRESS OF THE PROPERTY AND ADDRESS OF THE PROPERTY AND ADDRESS OF THE PROPERTY ADDRESS OF THE PROPERTY

of Ango near Dieppe built by the celebrated privateer captain about 1525. "He had acquired the beautiful lands of Varengeville," says M. Vitet in his excellent history of pieppe. 1"the ancient domain of the family of Longeuil: the beauty of the country, the vicinity of Dieppe, led him to demolish the old castle and build for himsel a manor house in modern style after his fancy. That is the manor house of which still remain some buildings converted into farm buildings, but which by an old custom, the inhabitants of the country know and designate only by the name of the chateau." This manor house had considerable extent, since Ango could receive king Francis I in it. But as we have already stated, the manor housesreplaced the castles in the 16 th century. Azay-le-Bideau, Meillant, Ghenonceaux and Anet. by their arrangement and purpose belong to manor houses rather than the chateaus, and singularly approach the antique villa. The symmetrical chateau of the reign of L Louis XIV caused the last traces of the manor house to disappear, since from that epoch simple country houses have sought to copy on a small scale those ponderous and regular masses, that in France particularly distinguish the chateau of the e end of the 17 th century from all habitations of the preceding centuries. But there is in the arrangement of the great chateaus of the 17 th century, such as Richelieu, Coulommiers, M Maisons. Monceaux. Vaux. etc., a certain amplitude and dignity, that suits those princely habitations, and that reflects the broad existence of the lords of a powerful country, who did not need to shut themselves within their resdicences, like the barons of the middle ages; that amplitude and majesty being reduced to the proportions of the dwelling of a citizen served by two or three domestics became ridiculous. Therein our neighbors in England knew better how to keep the scale. and their little country houses are good today, the dwellings of private men with modest fortunes and tastes, and who prefer the internal convenience to the vain satisfaction of erecting a diminutive of a chateau.

Note 1.p. 316. Histoire de Dieppe. Port IV. p. 451.

MARBRE. Marble.

Crystallized limestone, hard and receiving a polish. -- In France marble was little used during the middle ages; first

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Appendix and a series of the s

of the diese bines of the post of the accoments of the columns and contra's to acoid then to new buildings; even g anist one first Carloviating by a realist of Sonap traineions, they southings ourval matche centrale, but those exemples ses fire. Car nach miserial cares lone to sork and couli and sain armist, was no lower and sufficient resources to THE ADDRESS OF THE PARTY OF THE

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soluans and even capitals are of marcia. (Art. Clottes). Men may notice we lot as before a parties perufore mentions and in con-

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perform any an invasion of men wildly one because our reality they have lone it to testr nonor; to be assired of this, it safices to mee at t. Senis outte a large number of statues of weigh mayole from the 14 th and 15 th deductions, that are

THE REAL PROPERTY AND PERSONS ASSESSED.

because that material is not very common, then because its use requires considerable expense. The Romanesque architects of the first times often robbed antique monuments of their columns and capitals to apply them to new buildings; even u under the first Carlovingians by a reminder of Roman traditions, they sometimes carved marble capitals, but those examples are rare. This hard material takes long to work and could not suit artists. who no longer had sufficient resources to complete works of that nature. But in the South of France, the ase of marble did not cease until about the middle of the 14 th century, principally in the vicinity of the Pyrenees. There exist several cloisters in those southern provinces, whose columns and even capitals are of marble. (Art. Cloitre). Men also sometimes employed colored marbles as inlays during the 11 th. 12 th and 13 th centuries. 1 and for pavement, and white marble for altars, reredoses, tombs and statues. The system of construction adopted at the end of the 12 th century in France further did not lend itself to the use of marble, that even in Roman antiquity (except when it relates to isolated points of support like columns), was only applied as some form of facing.

Note 1.p.317. por eaxable, at the cathedral of Lyons.

The poets and chroniclers of the middle ages do not fail to mention works of marble, marble palaces, stairs and phambers. Which proves that the use of that material was regarded as an extraordinary luxury. Abbots that rebuilt their monasteries during the 11 th and 12 th centuries, or contemporaries that related their actions, did not omit to mention numerous works in marble, that never existed. Those are very common hyperboles among those chroniclers. Thus it is said that Suger caused marble columns to be brought from Italy for the enclosure of the sanctuary of the abbey church of S. Denis; now those columns are of hard stone from the quarries near Pontoise. Sommon people also frequently give the name of marble to certain hard limestones, that take a polish, but which however do not have the qualities of marble.

When the sculptors of the middle ages desired to cut marble, they have done it to their honor; to be assured of this, it suffices to see at S. Denis quite a large number of statues of white marble from the 14 th and 15 th centuries, that are

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A covered place of sale. (Art. Halle).

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ars of the 13 to century in The-Rence, Solssonia, Besavanta and Onempidee. These first validous are composed of such and are built. Such are the mullions of the catheors! of

to enapels of the choir of Notre Came of Rheims,

of excellent work. (Art. Statuaire).

The museums of Toulouse and of Avignon also possess many remains of marble monuments from the 12 th, 13 th, 14 th and 15 th centuries, of beautiful work.

MARCHE. Market.

A covered place of sale. (Art. Halle).

MARQUETERIE. Marquetry. (Art. Menuiserie).

MENEAU. Tracery. Mullion.

Seldom used in the singular number. -- This name is given to the mullions and compartments of stone, that divide the surface of a window into several open spaces, that are filled either by fixed glass, or by opening sashes, also glazed. (Art. Benetre). In Italy, Spain and likewise in France, during the first centuries of the middle ages, the windows of public edifices were often without glass lattices of stone, metalor wood, were then set in their openings to soften the light and to prevent the wind and rain from penetrating into interiors. When the use of glass became habitual about the 11 th century, the openings were filled with glass maintained by grought iron cross-bars. But about the end of the 12 th century at the time of the adoption of the system of architecture called Sothic, the windows being enlarged, it was necessary to arrange in their open areas stone divisions to support the glass: for those iron armatures were difficult to make, flexible and did not offer sufficient resistance to the force of the wind. Besides, those wide and high openings, if left void. would have no happy effect; they did not give the scale of t the structure, and the architects of the lay school at the e end of the 10 th century possessed sufficiently the feeling of proportion not to leave great void surfaces without occupy ing them by stone compartments, that could recall their dimensions. These divisions are seen to appear about the first years of the 13 th century in Ile-de-France, Soissonais, Beauvoisis and Champagne. These first mullions are composed of stone and are built. Such are the mullions of the cathedral of Soissons and of the cathedral of chartres. The tracery of the windows of the chapels of the choir of Notre Dame of Rheims,

18). Put soon too lay sonool of too clats accounty made of the operated continued on the contract of the operated note of less that according to the dimensions of the operates. In valited chilates, like the conforms and drest assembly halls, whose whundows occapy all or nearly all the surface left under the side access of the valids, the tracery is at first concosed of a cecaral mailton with two pointed arones surmointed by a citated of are the appet windows of the citate and neve of the citate and as of the citate and as of the citate and as of the citate and the manner of Paris can be referred as the first made in the manner of Paris can be referred as the first made in the manner of

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arones of the original window was then changed, and

although dating from about 1215, is still composed of courses or of voussoirs (Art. Fenetre, Figs. 13, 14, 15, 16, 17 and 18). But soon the lay school of the 13 th century made of the tracery actual stone sashes formed of mullions set on end and of perforated compartments cut from slabs more or less thick, according to the dimensions of the openings. In vaulted edifices, like the churches and great assembly halls, whose windows occupy all or nearly all the surface left under the side arches of the vaults, the tracery is at first composed of a central mullion with two pointed arches surmounted by a circle. Such are the upper windows of the choir and mave of the cathedral of Paris, rebuilt about 1225. (Art. Bathedrale, Figs. 3 and 4). Now the tracery of the upper windows of Notre name of Paris can be regarded as the first made in the manner of rigid stone sashes, between jambs and arches constructed of courses.

It is interesting to see how the architect introduced those stone sashes in the old windows of the 12 th century, and how the tracery was cut. The upper windows of the choir of Notre Dame of Paris had been constructed about 1170. They consisted (1), according to sketch A, of jambs with little columns on t the outside (see horizontal section B made on a b) surmounted by two equal concentric arches with a row of dentils added to the extrados. At D was the band covering the shed roof placed over the gallery, and at E the rose mindow opening beneath t that shed roof above the vaults of that gallery. (Art. Cathedrale. Figs. 3 and 4). The system was then new, of tracery allowing very wide windows to be filled by colored glass, and had so strongly charmed the bishops, chapters and their architects, that they did not hesitate to destroy the rose windows E, the old window sills J of the 12 th century, to replace t the shed roofs by terraces, to cut the jambs F, and to remove the inner arch of the opening. That being done, they cut in the remaining stones the little columns G inside and outside; inserted blocks H in the places left void b: removing the voussoirs of the rese window, as indicated by the hatched outline, placed the mullion I in the middle of the openings and jointed on this mullion and on the recut jambs the upper stone sash composed of two arches and of a circle. The curvature of the arches of the original window was then changed, and between

ANNAL OF TO SELECTED OF THE BEST STREET, AND ALLERANCES AND WHEN REPORTED THE WOLLD BE VISIT AND THE REAL PROPERTY AND THE REAL PROPERTY AND THE PARTY AND THE P filling K. For juince of this stope send marked in our File. vers cast with lead and iron dowers set as indicated by the assist L. It is to be presumed that are feet of the aronite ous to see the arches of the old minima bend, westened by losing a row of voussina, described that of each pictific saarusses to the equal arrays of the tracers. And it corry as composed thus: - 1, of the limits sentral column, wasse section we dive at a: ?, of the forked middle inscal; 3, and Laveral imposts: 4, two cloners of the lower access: 4, twar lateral voustorer 5, the regarder of the circle and the upper clusses, in all 14 pieces of stone for a sundon 52.3 ft. nigh by an average winten of 11.2 ft. Edt the void appears left betferrib so or strai col illia eras anciatvit ancia esent mana virious the and of iron. A erensverse rot oassing torong a sme apringings of the acones is A and crowning the nead of the c - all the fines appears of subjectives in the case in citati desperar der leeie auf his coulcel rellies and l'accett a meat payer able to the contract extent relateries to only TARROCC FAIR CONTROL OF THE STATE OF THE CONTROL OF m fight and decorate below again a midestream at anyth and it parties of the times that early says is the that he ore threat research and in advice and door have the out about district from the contents of the circle of the politics are not being

But already the mindows of the conceins of the choic of the catastal of knotes, contended and conserved the spect possessed tracery constructed and the courses, that in the spect of cole constructed cases intenied to reduce the ocen area of those circles. (Art. Fenctrs. Fig. 13). In this case as already, to Chambaine are due the innovations in Sothic architecture as Ine under minuous of the days of the choir of Arte Canada of Rheims, although built about the missis of the 13 th ocens.

appointments of that incomparable earlice. Forse windows are far the rindrested an the skaten of Villerd of Hornecourt before the skaten of Viller of Villerd of Viller of Villerd of

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the extrados of the stone sash and the intrados of the second arch of the 12 th century, left in place, was inserted the f filling K. The joints of this stone sash marked in our Fig., were cast with lead and iron dowels set as indicated by the detail L. It is to be presumed that the fear of the architects to see the arches of the old windows bend, weakened by 1 losing a row of voussoirs, determined them to give greater sharpness to the equal arches of the tracery. Each tracery is composed thus: - 1, of the little central column, whose section we give at m; 2, of the forked middle impost; 3, two lateral imposts: 4. two closers of the lower arches: 5, four lateral voussoirs; 6, the keystone of the circle and two upper closers, in all 13 pieces of stone for a window 32.8 ft. high by an average width of 11.2 ft. But the void spaces left between these stone divisions were still too large to be glazed without the aid of iron. A transverse rod passing through the springings of the arches at N and crossing the head of the c capital P was set in constructing the sashes. Bars 0 were fixed between the jambs and the central mullion and formed a series of rectangular panels: vertical bars R again served to diminish the width of the two openings and formed the border of the glass. In the circle 4 bars S also divided the void s surface of the circle. These bars were fixed in the circular sash. One will note that the joints of the tracery always radiated from the centres of the circle or of the pointed arches.

But already the windows of the chapels of the choir of the cathedral of Rheims, contemporaneous with those given below, possessed tracery constructed in courses, that in the upper circle constructed cusps intended to reduce the open area of those circles. (Art. Fenetre, Fig. 13). In this case as always, to Ghampagne are due the innovations in Gothic architecture. The upper windows of the nave of the choir of Notre Dame of Rheims, although built about the middle of the 13 th century, have sanctioned the principle adopted by the primitive a architects of that incomparable edifice. Those windows are further indicated in the sketch of Villard of Honnecourt before the resumption of the work on the cathedral in 1241, thus as a composition belonging to an earlier epoch. They consist of a central mullion supporting two pointed arches with a circle divided by cusps into 6 lobes (2). The tracery is represent

to be the control of the last the control of and errond trop armetures. The sease of the sirole are see in a desert, as indicated in section 4 made on a b. Fre repass caucording the glass is ande inside, as seen in the north-oneel seccion è rech acrosa une central mulicon, une estrerior b being at 8. For diass panels are beld in the circle by mesor of keyed oung d rixed in one instants of the chaps. The iron gravare of thet circle is itself fixed on the inner fire of one cases. The section C of one two licets acones nave se cod someth ear to seatnes out, element lanes itte te mosenes efor oals like sof .severe ent to assound and as asket brine what second row of little columns accepts the round forming the principal sender of the tricery, but thet those rounds do not follow the owers of the dress acce; so that the round of see carel s succession the great bevel ", and fact carels someand the mentioned on the provinces and he haddeningth but And then I had a vice of event vices in the said of this term -place out one destructe and any only assessments and make when you are pleasing he wasted at the collection of the senting of the ANY LONG BY PERSON OF THE MAN AND THE STATE OF THE STATE ves now the indecendent mont deted from 1240. Already as that need, area of the of Lander Lance and and of the Consees nicks pains and antiquent parent in taken to all me such sec oters, a staffe multipu nid no strave suffice; they To exclude his party took gare amount about allies on manual ins speces estrained foor, so as no longer to nave to diase so say over 3.3 to 4.2 ft. wire at mast. Aut that extention the seemed act and and and act as act access to -of god suctions of recited . 2000. That on elosers on se eves minesona accrimentica dor la oriendal architendure. The eronivec bast conceived the first pions of the catalines of Amians, Robert of jurarenes, but who see arise only the lower p cagin the ten print, and appropriate the assumed of the said had a -se end in awchite at the adapter adapter of thirdes es ANTONIO DE SERVICIO DE SERVICI and a circle fire casps new in a france.

of the nave, that are 19.7 ft. and by 42.7 ft. andh, thought

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reproduced at a larger scale than those of the chapels. The openings are not less than 7.5 ft, hence they were fitted w with strong iron armatures. The cusps of the circle are set in a groove, as indicated in section A made on a b. The rebate supporting the glass is made inside, as seen in the horizontal section B made across the central mullion, the exterior b being at E. The glass panels are held in the circle by means of keyed pins d fixed in the insides of the cusps. The iron armature of that circle is itself fixed on the inner face of the cusps. The section C of the two little arches have as generator an equilateral triangle, the centres of the arches b being taken at the imposts of the curves. One will also note that second row of little columns supports the round forming the principal member of the tracery, but that those rounds do not follow the curve of the great arch: so that the round of the circle penetrates the great bevel-X, and that circle appears circumscribed by the archivolt, but independent of its profile, so that the tracery seems to be only a sash inserted and not forming part of the architecture, but the whole still being made with the structure. The system adopted by the prinitive architect of the cathedral of Rheims, and scrupulously followed by his successors till the end of the 13 th century. was not the independent mode dated from 1240. Already at that epoch, they claimed to no longer leave such wide spaces for the glass panels. The windows occupying the entire width betmeen the piers, a single mullion did no always suffice; they desired to divide these spaces when very wide, and instead of two spaces established four, so as no longer to have to glaze spaces over 3.3 to 4.3 ft. wide at most. But that extension of the principle presented difficulties; for nothing could serve as an example at that epoch, neither in antique nor Romanesque acchitecture, nor in oriental architecture. The architect that conceived the first plans of the cathedral of Amiens. Robert of Luzarches, but who saw arise only the lower p parts of the nave, had arranged the windows of the side aisles according to the system adopted for the windows of the cathedral of Rheims; a central mullion, two equilateral arches and a circle with cusps set in a groove.

His successors having to glaze the enormous upper windows of the nave, that are 19.7 ft. wide by 42.7 ft. high, thought

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of filling those spaces with stone tracery sufficiently strong and close to be able to set the glass panels in its openings without having recourse to that mass of ironwork, that we see applied to the windows of the cathedral of Rheims. But they all started from the same principle; they established the principal skeleton according to the method adopted at Notre Dame of Rheims, i.e., composing it of central mullion supporting two equilateral arches with an upper rose window; but in those two great intervals left between the jambs of that central m mullion, they made a second stone sash, composed in the same manner: and a middle mullion supporting two equilateral arches and a circle. This system of crystallization, i.e., by infinite repetition of the accepted principle, we see rigorously applied from the end of the 13 th century in Gothic architecture, but did not at first attain its logical results; there was groping, and there appeared difficulties in execution. which were but imperfectly solved. The upper windows of the nave of the cathedral of Amiens are certainly one of the first experiments, for their construction cannot be later than 1235. Those windows (3) are composed, as everyone knows, of a central mullion built in high courses, of two dividing mullions of smaller section and composed of stones set on end, of two complete equilateral principal arches with a great upper rose window, of two complete equilateral arches resting on the dividing mullions with their secondary rose. Those secondary equilateral arches bear their round continuing the s section of the dividing mullions, and this member or round p penetrates the splays of the jambs and of the central mullion. as shown by the perspective sketch A. As for the secondary roses B and C. their section is independent and does not participate in the members that they penetrate. One will even observe that being troubled by the jointing, the constructor has placed the cusps of the rose B in a groove like those of the great central rose. (At E we give at double size the section of these secondary roses on a b.

Note 1.p.323. See the entirety of the composition of those windows in Art. Fenetre, Fig. 10.

At Amiens the constructors possessed only materials of quite moderate resistance and of rather small dimensions; they thus experienced difficulties in constructing those enormous trace-

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works of tracery. As is always bappens, it is not the simily thereon the first presents isself to the midds of those cast invent. This tracery wint its raised sections, cores in 1000 ves, coresunty offers inflications in irrard and current, of organization not seally taken into account by the scores, the offers in the carves at the coints I. I thin and thick parts, breaks in the carves at the coints I. I for example; yet already the architeces and the coints I. I ar member 2 to oxiet entirely around the archivolt, continued and the section of the little column H and case that the member of the fittle column H and case that the member of the fittle column H and case that the archivolt, continued the member of the fittle column H and case that the member of the fittle column H and case that the member of the fittle column H and case that the member of the fittle column H and case that the member of the fittle column H and case that the member of the fittle column H and case that the member of the fittle column H and case that the member of the fittle column H and case that the case that case the member of the fittle column H and case that case the case that the case that case the case that column H and case the case that the case that case the case

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traceries, and must multiply the joints to avoid too large p pieces of stone. Now if attention be paid to the jointing that we have accurately reproduced, one will see that in fact the blocks have only ordinary dimensions, and that the joints are traced in a manner to avoid ruptures to be feared in those w works of tracery. As it always happens, it is not the simplest means that first presents itself to the minds of those that invent. This tracery with its raised sections, cusps in grooves. certainly offers difficulties in drawing and cutting, of penetrations not easily taken into account by the stonecutters. of disford between the principal and secondary members, t thin and thick parts, breaks in the curves at the points I, f for example: yet already the architects had caused the round or member G to extend entirely around the archivolt, continuing the section of the little column H and penetrating the m member of the great rose tangentially.

This was an advance in drawing from the tracery of the windows of Notre Dame of Rheims. But however rapidly one proceeds, he does not arrive at simple methods and practical procedures without experiments. To give a drawing at reduced scale of t the open compartments of a window and a single section to suffice to make the drawing at full size was evidently the aim to which the architects must tend. It was essential to discover a method. It was also necessary to avoid dispreportion between the openings, i.e., to distribute them in such manner, that they should not be too crowded or two far apart. It was essential (since the system was adopted of no longer having iron armatures of great areas) to make a network of stone equally close to avoid those heavy, complicated and expensive curvatures. The architects of the upper nave of the cathedral of Amiens must have perceived the disproportion existing between the roses of the tracery, the heaviness of the secondary equilateral arches enclosing the lower roses, the difficulty of cutting those penetrations of members of different sections. Thus erecting a little after the upper windows of the nave, those opened in the western wall of the transept, they had already made improvements in drawing the tracery of these windows. (4).

Raising the imposts of the archivolt above the capitals of the mullions, they could give a smaller diameter to the princ-

arouse and the two ascondary equivers arises a mide some, that they will deficit, shien no londer days a dimposity of the central rose instead of simple and some of the central rose instead of simple and sheet and diminished the insociated of the front are. Farther, they said the central to the lose consistent at arches. This general drawing it evidently botter conciusations that the stone in Tig. 3; but also the fork of the detailer and the stone-where is simplified. One mid to serve in this direction of the central drawing it is expected to the detailer and the stone-where is simplified. One mid to serve in this direction of the case are set in directly, that the case alone of the central memoers are

is the esperatus of all members; thus one central maliton is the section D & F. The secondary malitons are fiven by the derived section S & F. Instruct of the lower confissoral arcaes adoct the section K E L. As for the section made on a d, it is given by D & M. By means of that concinetion, the axes alone of the orthologic rounds P and of the rounds or little s secondary collands S being tream, and the section D E F with the derivatives being given, the entirety of the tracery was

ained begins that combination the cusps of the central rose.

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Yet in teat insectors combination, experiments are still a specified, and no function method controls the starting corts of the draming. We shall see to the accordance of the same en-

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principal rose, finding between the small lower equilateral arches and the two secondary equilateral arlhes a wide space. that they filled with trefoils, which no longer gave a diminative of the central rose. In the central rose instead of simple cusps, they conceived the cusps at A, which better fitted the void area and diminished the importance of the iron armature. Further, they added the cusps B to the lower equilateral arches. This general drawing i evidently better conceived than that given in Fig. 3; but also the work of the detailer and the stonecutter is simplified. One will observe in this drawing, that the cusps alone of the central rose are set in a groove (see section C made on a b); all other members are included in the general jointing. Further, a single section is the generatrix of all members: thus the central mullion is the section D & F. The secondary mullions are given by the d derived section 6 E H. The cusps of the lower equilateral arehes adopt the section K E L. As for the section made on a d. it is given by D E M. By means of that combination, the axes alone of the principal rounds P and of the rounds or little s secondary columns S being drawn, and the section D E F with its derivatives being given, the entirety of the tracery was obtained without difficulty by the draftsman. There only remained besides that combination the cusps of the central rose. All the profiles of that section D E F revolve, save the exception admitted only for the extrados T of the secondary equilateral arches and of the central rose, which takes the simplified section D M D. One will also note, that in this drawing the jointing is infinitely more simple and natural than in the preceding drawing. Without difficulty the joints radiate from the centres of the equilateral arches and at the same time from the centres of the lobes. These joints were then always normal to the curves, avoiding sharp points and consequently the causes of breaks. Finally, the iron armatures are reduced to simple bars fitted with staples, and to some light secondary bars.

Yet in that ingenious combination, experiments are still a apparent, and no general method controls the starting point of the drawing. We shall see that the architects of the same edifice soon arrived at sure methods, to rules given by geometrical combinations.

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ecess are ) p is described. To find the centres of the two lover equilateral areas, from the points f' and h' are dramated the love the lover sees of the training at 1 and 1'. In these two lines, the lover area of the training at 1 and 1'. In these two lines,

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The windows of the choir chapels of the cathedral of Amiens are contemporary with those of the S. Chapelle of Paris, and date from 1240 to 1245; now the tracery of these windows is drawn according to a very simple and very good geometrical p principle. It must be stated that this tracery consists of a single central mullion supporting the tracery beneath then are thirtlt. (Art. chapelle, Figs. 39.40.

Let (5) at A be the horizontal section of one of those windows with its central mullion B. Let the lines B B'B" pe the axes of the central mullion and of the little columns of the jambs. One will first note that the same section is adopted for the central mullion and for the jambs. Let the line C D be the springing of the arch that must terminate the window. The space between the two axes E and F, half the width of the window, is divided into four equal parts E f, f G, G h, h F. from the point f, taking the half thickness of the column or round, that half thickness is laid off on the base line to f'. From the point h that half thickness is laid off to h'. Taking the length E h', it is laid off on the base line to h". On the that base h' h" is erected the equilateral triangle h' h" H. On the base f'h"is also erected the equilateral triangle I f' h". and from the apex H of the great equilateral triangle is drawn the little equilateral triangle H i' i, similar to I f" n". Then taking the length e f" and the apexes I f'h" and H i i' as centres, the trefoils are described. Taking the points h' and h" as centres of the length h" O as radius, the g great arc 0 p is described. To find the centres of the two lower equilateral arches, from the points f' and h' are drawn two lines parallel to h' I and f'I; these two parallels meet the lower arcs of the trefoil at 1 and 1'. On these two lines. from 1 to m and from 1' to m', one takes a width equal to the little column or round. From these two points m and m' are dr drawn two parallels to m g' and m'g: those two parallels meet the internal lines of the rounds at n and n': hence the two triangles m n g', m' g n' are equilateral, and taking the points g and g' as centres and the length g n' as radius, one traces the lower equilateral arches. At T we have drawn half the tracery with the thickness of the mouldings. Thus all s sections normal to the curves give the generating section of the central mullion B.

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la Art. Construction, p. 197 et sea., with rederá to the construction of the control of S. Mazeire of Carcestone, 48 ave shown that the most complicated combinations of lines of could easily be transmitted by the aid of drawinds made as a

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The jointing is simple, logical and stable, for all sections are normal as indicated by the drawing T. Without experiments the round at the points of junction of the two curved figures always retains its same thickness, which is the most essential rule for drawing the openings of the tracery. From the middle of the 13 th century, the tracery is always drawn according to refined geometrical methods, at least in the edifices erected in Ile-de-France. Champagne and Picardy. Among this tracery, that whose design appears most complicated is often produced by a simple geometrical method presenting no difficulty to the draftsman. We shall furnish the proof. At first the architects of that epoch avoided tracery with different sections in the same window; they adopted a single section, even for the tracery of windows of four bays, like the windows of the abbey church of S. Denis (Art. Fenetre) Fig. 24). Therefore it is further only necessary to trace the compartments by means of axial lines of the sections of the tracery. This principle also permits one to treat without difficulty windows with one, two, three or four mullions, to trace compartments at a small scale, following the geometrical method, and thus to permit drawing the details on the workyard without danger of errors.

The tracery of the windows of S. Urbain of Troyes, that date from the second half of the 13 th century (about 1260), is d drawn according to this principle, i.e., that with the drawing which we give here of one of those windows and a section of the mullion at full size, the details can be made for the cutting of the glass panels. That was a considerable advantage in a time when many monuments arose in the French provinces and even abroad, for drawings sent by our architects of the royal domain. The extraordinary influence that the style adopted by our lay school had acquired over the entire extent of the territory actually French, over a part of Germany and of Spain, was such that the architects had been compelled to seek methods of drawing, that were not subject to false interpretations.

In Art. Construction, p. 197 et seq., with regard to the c construction of the church of S. Nazaire of Carcassonne, we have shown that the most complicated combinations of lines c could easily be transmitted by the aid of drawings made at a

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Note 1.p. 229. There is no need here to recoil how many times, even of Paris, that we have lately seen men remove and rebuild on the monuments themselves; this is a mode of secking the monuments themselves; this is a mode of secking the monuments.

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small scale: the superiority that should be given to us over our predecessors by six centuries by more extended knowledge of descriptive geometry, and so many other advantages, is however not such, that we could transmit as easily today the details of our architecture with entire confidence in the mode of interpreting them. Architecture is worthy to be regarded as an art, only as it leaves entire the brain of the artist, and that it can be drawn. When one comes to experiment during the execution and to erase, so to speak, on the monument just like erasing on paper, there cannot be a pretense of possessing architecture. Such an epoch cannot show too much respect to artists, who know what they desire, and who combine an entire edifice in their heads before opening the workyards. Let us then examine the tracery of the windows of the choir of S. Urbain of Troyes. (6).

Note 1.p.329. There is no need here to recall how many times, even at Paris, that we have lately seen men remove and rebuild on the manuments themselves; this is a mode of seeking the good or the better, that is somewhat expensive, parmerly one tried it on paper; but once having commenced the execution, all parts held together and were conjoined, and thus could not be changed without its being possible to give serious reasons for those changes.

Let A B be the width of the window. On that width, that gives the axes of the rounds or little columns of the jambs having as section the half section of the mullion, is drawn the equilateral arch C D E. then the base C D of the two circular arcs circumscribe the equilateral triangle. Bivideng this ecuilateral triangle by the axis E F and by two lines C G and D H passing through the middles of the lines D E and C E. the Fig. E K I L is obtained, in which we inscribe the circle whose centre is on the axis at N. Marking on the lines L C and T, D two points M' M" at distances equal to the length & M. t two other circles are drawn with radii equal to that of the circle with centre at M. It is clear that those two circles are tangent and are inscribed in the great pointed arch. Then dividing the width A B into three equal parts A a, a b and b B, and bisecting each of these divisions, we erect verticals from the points N and O. like O P that cuts the circumference of t the circle M" at P. From this point P with a radius equal to

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points b 8 as centres and tue leaden b 8 as cadius, we trans the three lower pointed arones; we stok on that base 8 8 the

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imposts a and b and being teneshot to the two circumferences of V. V. All these lines form the axos X of the tracery, whose section we have given at Y. The darker northin Z on that section Y dives the section of the cusps. Interis of these of the confus of the circumference of the confus of the trace the cusps as then take that the trace the cusps as then take that the confus of the circumference of the tracery, one divides the distance of two and the circumference of two educations of the tracery, one divides the circumfarce of the circumference of

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Pae icincing of tas tracery is indicated by lines 2. etc. 4% 8 8 is given the detail of the capitals. This tracery that is only 3.8 ins. thick by 9.0 ins. deep, suffices to maintain t

hisa from sill to ocosu, and they also rest on a perforated sellery (Art. construction, Fig. 103); they are out in the Prine liss of Pomerro and are well oreserved. It would be incossible to combine a lighter sesh of stone, better understood and more resistant with regard to its everage alequeness.

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tasse arches enter insc érooves under those side arches, as indicated by the section Y'. faces is no need to say that the vertical mallions are in one piece each, and that the oceaning

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b B we form the equilateral triangle P b S. Then we have the base R S of the tracery resting on the mullions. Taking the points b S as centres and the length b S as radius, we trace the three lower pointed arches: we seek on that base R S the centres T of the second middle pointed arch starting from the imposts a and b and being tangent to the two circumferences M" M". All these lines form the axes X of the tracery, whose section we have given at Y. The darker portion Z on that section Y gives the section of the cusps. The axis p of these c cusps is at a certain distance from the axis X and must not be confused wit that. To trace the cusps we then take that distance inside the interiors of the circumference of the circles and of the lower pointed arches. For the cusps of the circles, m being the point marked on the axis at the distance X f given by the section of the tracery, one divides the distance m M into two equal parts: from the middle point m' and taking m'm as radius, we trace the cusps with four circular lobes. As for the cusps of the lower pointed arches, they are traced with the same radius; the centres of the lower branches being placed on the base line R S. The cusps of the space D are likewise inscribed within an equilateral triangle. At A A we have traced at the scale of 1: 20 the detail of the cusps of the circle with the circular iron armature fixed to the f four ends of the lobes and destined to support the glass. The jointing of the tracery is indicated by lines g, etc. At B is given the detail of the capitals. This tracery that is only 3.8 ins. thick by 9.0 ins. deep, suffices to maintain t the glass in the windows. that are 14.4 ft. wide by 30.2 ft. high from sill to crown, and they also rest on a perforated gallery (Art. construction, Fig. 103); they are cut in the f fine lias of Tonnerre and are well preserved. It would be impossible to combine a lighter sash of stone, better understood and more resistant with regard to its extreme slenderness.

The side arches of the vault exactly circumscribe the great pointed arches that served as centres for turning them, for these arches enter into grooves under those side arches, as indicated by the section X'. These is no need to say that the vertical mullions are in one piece each, and that the openings are cut in very large slabs of stone, as indicated by the jointing traced in Fig. 6.

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NAME OF TAXABLE PARTY OF PERSONS ASSESSED. at. One will note in the preceding events, that there ere s still certain lines left for triel; thus the inscribing of the apper circle, the descritor of tue orner three, in tee Fig. F N I S. can be observed in priority only by service on the aris F T the centre W.by means of trials, the tantency of this FO bos F C sors out ent bon H O bos I S senil ent main elouis only being knorm in advance by complex Feometrical operations, case is would perceively be useless to make, the architects a were then brought to seek geometrical methods, that could siways or demonstrated, and consequently whose trace was absolute. That result is remarkable in the part of the cauro of S. THE REPORT OF THE PARTY OF THE the 14 to century. The confisheral triangle becomes in that a AND THE RESIDENCE OF THE PROPERTY OF THE PROPE

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so cue instance between the description arcs a and the axes b of the secondary combers of the tricory, mose section is at 3, ict tare be e e', the sommand of the tracery heind fired as the less as so that and in the searce of the cicaulis acc, that must pass throads the course a sed f; a c seaste datorally obtained by dravirs a line through the points and f and erecting a perpendicular at the middle of heat I level end to shal and edan northogonathi sai de ref sa the ena!

About the end of the 13 th century and the beginning of the 14 th were employed methods still more precise and more rational. One will note in the preceding example, that there are s still certain lines left for trial; thus the inscribing of the upper circle, the generator of the other three, in the Fig. E K I L. can be obtained in practice only by seeking on the axis E F the centre M, by means of trials, the tangency of this circle with the lines G I and D H and the two arcs C E and DE only being known in advance by complex geometrical operations. that it would certainly be useless to make, the architects w were then brought to seek geometrical methods, that could always be demonstrated, and consequently whose trace was absolute. That result is remarkable in the part of the church of S. Nazaire of carcassonne, which was erected at the beginning of the 14 th century. The equiliteral triangle becomes in that e edifice the generator of all the compartments of the tracery. Let us take first the windows of the sanctuary of this church that are simplest, and that are divided only by a central mullion supporting the tracery. The generating trace is made on the axes of the little columns or rounds. Let (7) be one of those windows. The three vertical lines A A'A" pass through the axes of the little columns, whose section is given at B. That axis is traced in a. The springings of the pointed arch being at C C', on that base C C' is erected the equilateral triangle C C'D, and taking C C' as centre, there are traced the two arcs C D and C'D. which are always the axes of the r rounds given at a on the section B. Dividing the lines C D a and C'D into two equal parts, the dividing points d d' and popoints D C C'c being taken as centres. we trace the three curviliaear inscribed equilaterals. Two verticals dropped from the two points d d' divide the two arcs C c and c C' into two equal segments. Then taking inside these arcs distances equal to the distance between the generating arcs a and the axes b of the secondary members of the tracery, whose section is at B. let this be e e', the springing of the tracery being fixed at the level E: on that springing we seek the centre of the circular arc. that must pass through the points a and f: a c centre naturally obtained by drawing a line through the points e and f and erecting a perpendicular at the middle of that 1 line and as far as its intersection with the line of the levelprincipal nameses, and the area off, of fine tree of as secondary

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itosted by the douted ratin; prove output are accordingly restored, i.e., there section is that the second denerating section andse axis is to be acted to each of the section and the secondary, the axes of the cusus are tendent to these arcs, as seen at £. As for the lower cusps h, they a are terriary and take the section h', a subdivision of the £.

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isobs than the division into three. There was then an understanding between the architect and the giast carner. In the dreat same church of a larance the transept are indeed divided into three boys by means of two multions; the comparaments surmountaind these multions, although differing, all proceed by concensions given by the escalations diven by the escalations (?).

The compartments are traced by laking the axes of the living to compartment of the living the compartment of the compartment of

E. Hence the arcs C'D, C"d, c d', d d', etcs, are regarded as principal members, and the arcs c C", e f, e'f as secondary members, the centres of the cusps G are taken on the axes passing through the summits of the curvilinear triangles, as indicated by the dotted radii; those cusps are secondary members, i.e., their section is that given by the second generating section whose axis is at b. But the arcs C c and c C' being themselves secondary, the axes of the cusps are tangent to these arcs, as seen at g. As for the lower cusps h, they a are tertiary and take the section h', a subdivision of the g generating section B. The capitals of the arches are placed on the level C C'.

The trace F of one half of the tracery at the scale of 1:25 explains the trace of that sketch so as to make understood the sections of all the members. Frequently as in the present case, the section of the extrados M is simplified and gives the section N, but that arrangement is rare; from the end of the 13 th century the sections are uniform at the intrados as at the extrados of the arches of the tracery. On the drawing is given the section of the side arch, that exactly encloses the arch of the tracery, serving it then as centre. The tracery of these windows is in happy proportions; from the sill to the springings E of the lower arches the little columns are 25.3 ft high, and are composed of two or three pieces.

The compartments of the upper tracery generated by equilateral triangles lend themselves perfectly to the system of tracery arranged in three bays, quite generally adopted in the 14 th century. Since the windows were ornamented by stained glass, it was desired to have ambiddle motive; the windows in two or four bays were less favorable for the painting of subjects than the division into three. There was then an understanding between the architect and the glass painter. In the great same church of S. Nazaire the great eastern windows of the transept are indeed divided into three bays by means of two mullions; the compartments surmounting these mullions, although differing, all proceed by combenations given by the e equilateral triangle. Here is one of those windows (3).

It is understood that from the middle of the 13 th century the compartments are traced by taking the axes of the little columns or rounds. Then let a a' be the axes of these little

listle columns whose section is direct as 4, with its hisomoreition into account; and neckliky memoars, the line b osing the axis of the secondary memore and to sixe end menber. The spring of the side area being at 5. on the ease line 2 8' is eracted the conflateral triangle 3 8'C. inc opinis 3 3' ace the opposes of the principal area 8 0 and 8'0. From the ware point 8' and the point D, takind ? D as cours. Te describe the tro area B's and D e: from the notat e as ceaore we describe the third are 0 8', but reducing the ratius ov the distance becamen tee two axes A and b. It is close taat the captre e is found on the side 6'O of the drast englist eral triacele. Jakine the points e and C as control, we trace was door curvilings unitable. Then the point f of the intersection of the base with the axis of the window and slways c baking the distance as a railur, se constant the inter-.91 dous Estaton elfrim ent le sections ent era Jana . e neitors Those are the eyes of the crimancal members of the competitions. AMIN' AL PRIMINE AND ALL IT AS DESIGN PARTON AND ADDRESS.

the compartments, whose services is diven on the secondary svis to b. Taking the bounts C and c as centres, and having five the arc C e into two equal carts, the lengths e i and C i give

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triand, sincide the depar convex ourselfact triangle. Paring arected that swa variable 1 l' a a discunct from the area area? count to the distance existing catmern the great axis A a

tance 1 1' as radius, se obtain the points o of, that are tha

distance between the two axes 4 and b of the section, we trace the aiffle trefeil, whose centres are at the matles of an confidence triengle; then on the line of the level on or prionded, we shoot the lower control notated acts the trefoil. All these memoers belong to the secondary section with acts at b. The cusps, the little trefoils and the suchivisions traced in P belong to the testing section of the tracety with all its members, a seconding to the thickness of each section, obtained by leving according to the thickness of each section, obtained by leving

At 3 se recreased one of the centrals s of the mullions and

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little columns whose section is given at A, with its decomposition into secondary and tertiary members, the line b being the axis of the secondary member and & that of the tertiary member. The springing of the side arch being at B. on the base line B B' is erected the equilateral triangle B B'C. The points B B' are the centres of the principal arcs B C and B'C. From the same point B' and the point D, taking B D as radius. we describe the two arcs B'e and D e: from the point e as centre we describe the third arc D B', but reducing the radius by the distance between the two axes A and b. It is clear that the centre e is found on the side B'C of the great equilat eral triangle. Taking the points e and C as centres, we trace the apper carvilinear triangle. From the point f of the intersection of the base with the axis of the window and always t taking the distance a a' as radius, we obtain points of intersection g. that are the centres of the middle pointed arch fg. Those are the axes of the principal members of the compartment, those with the largest section A. It is now necessary to trace the compartments, whose section is given on the secondary axis b. Taking the points C and e as centres, and having divided the arc C e into two equal parts, the lengths e i and C i give us the radii of the three arcs forming the concave curvilinear triangle inside the upper convex curvilinear triangle. Having erected the two verticals 1 1' a a distance from the axes a a' equal to the distance existing between the great axis A # and the secondary axis b. from the point n and taking the distance 1 1' as radius, we obtain the points o o', that are the centres of the lower arcs on and O' n. Always observing the distance between the two axes A and b of the section, we trace the middle trefoil, whose centres are at the angles of an equilateral triangle; then on the line of the level o o' prolonged, we erect the lower central pointed arch tangent to the lobes of the trefoil. All these members belong to the seconds ry section with axis at b. The cusps, the little trefoils and the subdivisions traced in P belong to the tertiary section c. At R is represented half the tracery with all its members, a according to the thickness of each section, obtained by laying off to the right and left half the thickness of these sections. At S we represent one of the capitals s of the mullions and at T the pin through the iron bars placed at the springing of

the tracery, that are decided to maintain in their plane not

ane joints of the stonesork are cast in lead, a prepartion pacomind accessivy from the time trat the section of the mellines has reduced to a very small area. If one devines to invoce whis attention to the arrandement of that fointing, he will note to that the voids left at the middle of slabs of frest dimensions are strengthened by subirrisions of trefoils and coses, which and to the stability of this tracery. Hose architects of the

Paus for example, those cases 9 the seen to hopear acout the middle of the 12 to seathry in Tle-de-Granes and at
first at the 9. Theosile of Parts, those cases recorded as a
decoration and charm, here orinicanely indicated by a nest of
strength. Every time that inconvenience results from a form

that means becomes a movive of decoration. One sees in Fig. 9

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is strongthined by means of the owner Processed an angle outside it. It is also that the traceous V, inscribed in the uniandies commed in the lardest bisess of the stone, dive dient surrection to the orangenes of these triangles. Attendes and those V of the branches of the moser convilinear triangles and those to V of the three right andie orangeous sindically and to the cesistence of these parts of the stone vork. The does not the

ich members, for example, without candibly increasing their weight; but it is desired to restand and a important of restand and the consider some considers some considers.

Tailo rendering all justice to our cine, as may horover be estatived to restore to each even and being to the in in in 1 ch; national is indeed conceller, and besigning to study at a substitution of besse stone or obstice, because on a substitution of besse stone or obstice, because on and and substitution of area traced, concerns at foi the in a manner to prement one lease voids and so offer and areas the sections of the follows, all we retail one transcent of the circuit of the principal and besse and the sections of the follows, all we retail one transcent of the sections of the follows, all we retail one transcent of the sections of the follows.

the tracery, that are designed to maintain in their plane both the vertical columns and the compartments. These pins and all the joints of the stonework are cast in lead, a precaution becoming necessary from the time that the section of the mullions was reduced to a very small area. If one desires to devote some attention to the arrangement of that jointing, he will note t that the voids left at the middle of slabs of great dimensions are strengthened by subdivisions of trefoils and cusps, which add to the stability of this tracery. Those architects of the French Gothic school are terrible logicians, and the composition of the tracery of their great windows is a new proof of it.

Thus for example, those cusps H that are seen to appear about the middle of the 13 th century in Ile-de-France and at first at the S. Shapelle of Paris, those cusps regarded as a decoration and charm, were primitimely indicated by a need of strength. Every time that inconvenience results from a form adopted, one seeks and at once finds a means to remedy it, and that means becomes a motive of decoration. One sees in Fig. 8 that the branch K is isolated, and that the least settlement, or an unequal pressure could break it at L: now that branch is strengthened by means of the cusp P forming an angle outside it. It is clear that the trefoils X. inscribed in the triangles opened in the largest pieces of the stone, give great strength to the branches of these triangles. Likewise the cusps M of the branches of the upper curvilinear triangles and those at N of the three right angle projections singularly add to t the resistance of these parts of the stonework. One does nothing different today, when he gives greater strength to cast iron members, for example, without sensibly increasing their weight: but it is true that it is desired to regard those im ovations as due to modern science.

while rendering all justice to our time, we may however be permitted to restore to each epoch what belongs to it in fact; one is indeed compelled, when he desires to study with attention the composition of these stone traceries, occupying considerable areas relatively to those given by preceding and modern methods of architecture, are traced, combined and jointed in a manner to present the least voids and to offer the greatest resistance possible. By drawing the principal members and the sections of the joints, all the weights are tran-

neshed of those tortions must have been food, since nost of our freeze commustions must have been food, since nost of our freeze foreic edificas have rotained their tracedy, and when they have suffered deterioration, it is easy to restore or replace them, fust as one reclames the iron or wooden seen. The sinne tracery even has this advantage, that it can be revened in part, if there are some breaks, while the sash of cores or iron, ones deformed, must be remarked.

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most ofnesical art of the middle ages, a sobriety and appropriate of the alicabion of correct principles, obsained by the rid of the simplest mulhade, a refinement in proportions, in the choice of cooffice, that leave in the second rank the works of the citer provinces. It give (9) one of the windows of the character of Hours Dawe of Paris, erected at the stop time as the choir of the course of Paris, erected at the second.

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Yere is seen the strence of all conclex combination, is is alrays the design of the tracery of the rindows of the R. Concells of Paris, but made lighter. These wirdows are also divided in four bays by means of a central multion, whose section is given by the axis A, and two secondary multions, whose section is derived from the principal and as given by the axis b. Let a and a' be the axes of the principal section 4. From the coint R, taking a's as reduct, is described the ere concentrated the size aren C R. Then R C is the side of an erection of the side of the triangle, taking R C as the middle of the case of the triangle, taking R C as the middle of the case of the triangle, taking R C as the coint R c the middle of the case of the triangle, taking R C as the case of the triangle.

transferred on the vertical mullions, but chiefly to the jambs; as for the open panels, they are made rigid as solid slabs by means of those tertiary stiffenings, such as trefoils and cusps. These com inations must have been good, since most of our great Gothic edifices have retained their tracery, and when they have suffered deterioration, it is easy to restore or replace them, just as one replaces the iron or wooden sash. To the stone tracery even has this advantage, that it can be repaired in part, if there are some breaks, while the sash of wood or iron, once deformed, must be renewed.

Let us add that this stone tracery glass of enormous weight and the iron armature destined to attach it. Only considering those architectural members from the point of view of the effect produced, they appear to us to form designs of agreeable appearance, reassuring the eye and happily composed. Into Ilede-France it is always necessary to go to seek the best examples of this architecture, at the moment when it develops, to arrive at formulas. One finds in that school the purest and most classical art of the middle ages, a sobriety and an application of correct principles, obtained by the aid of the simplest methods, a refinement in proportions, in the choice of profiles, that leave in the second rank the works of the other provinces. We give (9) one of the windows of the chapels of the choir of Notre Dame of Paris, erected at the same time as the choir of the church S. Nazaire of Barcassonne, i. e.. about 1320.

Note 1.p.337. It should not be forgotten that the construction of the choir of church S. Nazaire of Carcassonne is due to an architect of the royal domain.

Here is seen the absence of all complex combination; it is always the design of the tracery of the windows of the S. Chapelle of Paris, but made lighter. These windows are also divided in four bays by means of a central mullion, whose section is given by the axis A, and two secondary mullions, whose section is derived from the principal and as given by the axis b. Let a and a' be the axes of the principal section A. From the point B, taking a'a" as radius, is described the arc concentric with the side arch C B. Then B C is the side of an e equilateral triangle. From the same point B and from the point I at the middle of the base of the triangle, taking B L as r

request simple is traced tendent to the arcs R C and T. Taese are the simple is traced tendent to the arcs R C and T. Taese are the size of the principal newbers, those with rection dialerable whose exists A. Laying off. inside the window and from the points a a' a distance could to the distance of the axes A and b to e', dividing the base line e's into the couel parts, taking a f as radius, he trace the lower arches e f g, f e'f', then the under secondary arch concert arches e f g, f e'f', then the under secondary arch concert this circle and of the lower arches a distance earal to the size of the terinary section and the secondary section and the size of the terinary section, he trace the axes of the cusons.

The arbuind of this tracery is then easily made, the concosition is happy and clear, stable and with solid jointing, as one can see at G. At K is given the section of the jamb b sub-

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isontal projection of the abscuses of the capitals, and that it is the norizontal projection of the passe. Here the function of the cusps is give start additional strength to the principal and secondary oranghes of the arcases, and one sees now they are skilfully arcanged not to interfere with the case a the joints. The central and the two

per tracery, it is composed of only 15 pieces, and small these

crows inside.

Jace the logical principle in indicated in the construction of the tracery as in the orner members of Scienc architecture, architectures that not stop. Show they empirely renounced the daggerant of actions, accordary and terminers, they adopted a single section for all memoers of the princery, except the cusos that are mainter. About the end of the 14 th century men electives of seek to avoid pointed arches. The tracery is composed only of curves and reverse curves, so as to no longer form

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<sup>.00</sup> orest a number of examples, we easil addit one tracery a

radius, we trace the arcs B E. Now B E is equal to E C. The upper circle is traced tangent to the arcs B C and I E. These are the axes of the principal members, those with section given by the profile whose axis is A. Laying off inside the window and from the points a a' a distance equal to the distance between the axes A and b tice e', dividing the base line e' into two equal parts, taking e f as radius, we trace the lower arches e f g, f e'g', then the under secondary arch concentric with the pointed arch I B F. Taking toward the interior of this circle and of the lower arches a distance equal to the distance between the axis b of the secondary section and the axis c of the tertiary section, we trace the axes of the cusps.

The drawing of this tracery is then easily made, the composition is happy and clear, stable and with solid jointing, as one can see at G. At K is given the section of the jamb h supporting the side arch of the vault forming the external archivolt. At L is given the profile of the sill with outside at 1 with the penetration of the bases. The sketch m gives the horizontal projection of the abacuses of the capitals, and that at n is the horizontal projection of the bases. Here the function of the cusps is evident. These cusps i give great additional strength to the principal and secondary branches of the arches, and one sees how they are skilfully arranged not to interfere with the cuts a the joints. The central and the two secondary mullions are each of a single piece: as for the upper tracery, it is composed of only 15 pieces, and still these windows are 13.1 ft. wide by about 14.8 ft. high below the c crown inside.

Once the logical principle is admitted in the construction of the tracery as in the other members of Gothic architecture, architects did not stop. Soon they entirely renounced the generating sections, secondary and tertiary, they adopted a single section for all members of the tracery, except the cusps that are thinner. About the end of the 14 th century men already even seek to avoid pointed arches. The tracery is composed only of curves and reverse curves, so as to no longer form a network of uniform resistance. That was logical in theory; in practice those forms were less satisfactory.

To not charge this Article, already quite extended, with t too great a number of examples, we shall study the tracery a ndonsed in the 15 th century, and in the componists

one tecceives that tendency of the constructors of this econ

the style of the spharent simplicity.

fined in the composition of tracery, aronizate seek to trmeform all forces and loads into vertical pressures, het (10) be one of those middows of the 15 to century. The section of the the three mullions of those windows is the same (see detail A).

The same (see detail A) are the tracery; the cases slope are fulficed and take the section P. Sy mesons of the great reverse

no the central mailing 7 and the james D. A part of these losses is as is even thrown on the intermodinte mailings 6 ov the reverse curves a and by those or b. The combinations of these curves and reviews convox show well the arm to: the construction of the convoxed to attain, viz: threefy forming a network whose meaned are resolved into vertical pressures, a deneral system of stiffering and reinforcement that well needs by the casts. For exemple, one understands what the curve o would break up-

sue stone treo pv.

Note 1.0.839. That fiven here cemes from the choir of the church of Ru. in which the architecture of the siddle of the

will recording the all the weak peints, that must saffer the stroppess pressures are staple; that these carves that the send to make all the nervers staple; that these carves are the arabet by reason of the variable direction of the pressures, co as to decuebes these that are loss to decuebes the first of the foliats of the stonework are case persondicalar to the direction of those pressures, so as a second news forms and it are the form that is necessarily strong that for this kind of architecture of the forms of the stones the sore of the stones. The country of the stones are the sore of the sore the sore

adopted in the 15 th century, and in the composition of which one perceives that tendency of the constructors of that epoch to further only take account of logic, often at the cost of the style of the apparent simplicity.

Then in the composition of tracery, architects seek to transform all forces and loads into vertical pressures. Let (10) be one of those mindows of the 15 th century. The section of t the three mullions of those windows is the same (see detail A). it is likewise reproduced in the tracery: the cusps alone are thinner and take the section R. By means of the great reverse curves of the two principal divisions, the loads are grought to the central mullion C and the jambs D. A part of these loads is even thrown on the intermediate mullions E by the reverse curves a and by those at b. The combinations of these curves and reverse curves show well the aim that the constructor proposed to attain. viz: - tracery forming a network whose meshes are resolved into vertical pressures, a general system of stiffening and reinforcement at all weak points by the cusps. For example, one understands that the curve c would break under the least pressure, if it were not strengthened by the c cust d. The bars e destined to maintain the panels of glass a also come to add strength to that given by the combination of the stone tracery.

Note 1.p.339. That given here comes from the choir of the church of Eu, in which the architecture of the middle of the 15 th century is pure and wisely understood.

If one is willing to examine this tracery with attention, he will recognize that all the weak points, that must suffer the strongest pressures are stayed or stiffened by curves that t tend to make all the members stable; that these curves are t traced by reason of the variable direction of the pressures, so as to decompose those that are oblique, and change them to loads acting vertically; that the joints of the stonework are cut perpendicular to the direction of those pressures, so as to avoid weak joints subject to slip or to cause breaks. We do not have a very strong taste for this kind of architecture, but it is impossible for us not to recognize there the work of very experienced and sagacious constructors, even logical to excess, among whom caprice or chance has not taken root. When the abuse of a principle leads to such conceptions, it

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Note 1.p. 841. From the 15 th century the constructors that had not coostant to find how there is a satiled by oxidation, and some information to the standard op moking it aplit, replaced that there were or of stockars.

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is necessary to deplore the abuse, but it is essential to equitably state the value of the principle, and to attempt to d derive benefit by avoiding that excess. These men knew thoroughly the resources of their art, doing nothing unless guided by their reason. It does not pertain to us today to cast a stone at them, we that possess varied and excellent materials, and do not know how to use them, who exhibit insufficiency, when it concerns this sort of architecture. In this last example, the vertical mullions are each of a single piece from the sill to the springings of the curves. The bar G passes through the heads of these mullions and maintains the imposts of the tracery by means of bone pins 3/8 or 3/4 iuch. Wires maintaining the glass panels entered the grooves I. The bars and rods as well as the dividing bars e have staples and keys. The architects of the 15 th century trusted so much to combinations of their tracery, that they often cut it in semi-hard stone, for example from the royal layer. It is also necessary to state, that they gave that a section relatively greater than that adopted for the tracery of the 14 th century, which is always more delicate. Those compartments of the tracery were retained until about the middle of the 16 th century. Yet at the e epoch of the Renaissance some attempts were made to place the tracery in harmony with the new architectural forms in vogue at that epoch. Witness certain tracery of the church of La Herte-Bernard, which presents the most singular mixture of t the traditions of the middle ages and the reminiscences of Ro Roman antiquity. One would believe that he sees the arabesques of Pompeii executed in stone.

Note 1.p.341. From the 15 th century the constructors that had occasion to find how those iron pins swelled by oxidation, and were injurious to the stonework by making it split, replaced these metal pins by pins of mutton banes or of staghorn. The latter have retained all their hardness.

Here (11) is one of these combinations. The window is divided by two vertical mullions G, its axis being at M. The stone designer here has not sought wise joints for assembling the tracery. That actually consists only of three perforated and superposed lintels, whose beds are seen at L L' L", the branches O of the arch forming parts of these lintels. One also recognizes that the architect by the arrangement of the arab-

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arabesques wished to give strength to the weak points of the openings. The little figures and the scrolls only exist outside the glass, the glass panels being inserted in the principal compartments. Even the little column K has only half the thickness of the tracery and exists only on the exterior. At A is traced the section on a b and at B is the section on c d. The most delicate portion of that tracery is scarcely more t than an external decoration, that nowise supports the glass panels, but which still gives a little more stability to the work. This tracery produces a very good effect and is executed with delicacy and remarkable perfection. The rampant soffits under the cornices of the pediments are ornamented by d delicate engraving. The system of lintels or of perforated c courses adopted here could only be suited to quite narrow windows, since it forbids vertical joints. In the same church t the tracery of the windows having three mullions and four bays are combined in the mode of those before given. Fig. 10.

The windows of civil architecture also have mullions, when they were too wide for it to be possible to close them with a single sash (Art. Fenetre, Figs. 29, 31, 32, 33 35, 36, 37, 38. 40. 41, 42). Until the end of the 13 th century, these m mullions habitually consisted only of a little column relieving the lintel. The architects displayed a certain luxury of sculpture in the tracery of palaces, and sometimes even ornamented their shafts by figures. We have discovered at Sens a very beautiful mullion of this kind, which dates from the 12 th century (12). The statuette attached to the column with octagonal section forming the body of the mullion represents geometry or architecture: it holds the great compasses of a detailer. At A is traced the section of the mullion made on a b. at R is the side of the mullion with the projection at the back intended to receive the bolts. In the section A we have not indicated the section of the figure by hatching, in order to show that of the little column in whose shaft was e engaged the statue. On the lower part of the mullions of the upper windows of the cathedral of Nevers, on the exterior one also notes statues attached to the shafts of the little ceut-

Note 1.p.343. This little column, which serves as a window mullion, is now placed in one of the windows of the ground s

story of the holi of the synce of 301c.

At the ecode of the Remaissance, the sleet sees malliosed in the first of caryanies, or of niesters serroused by biets. It was everedly matel the retee of fours XII, thet tracery was retained y removed; when attle emologies at at the breing ourse of the 17 to cartery to maneuric the closures of minder ourse of the 17 to cartery to maneuric the closures of minder of or continuity filled with stone mallions of monumental appearance, which she the name of ladier to those from openings.

These mailtons are now replaced by wooder monumental appearance of rood, these was somewhy in bernony with the chifties, which it is made sary to repair every the veery and to read and the relief is made that is made the continuity of the continuity. It is made that is more account to the mach enterpressed to say way.

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of the peoples of the forth are outsicalarly apt in making sorks in carpeters, they are no less skilful in arring to and trues forms both melicate, lifeth and stable, that constitute formary. The art of jorder is furner only a branch, derived from the art of the classical art of the classical art of the classical art of the means of eraperion are the same.

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story of the hall of the synod of Sens.

At the epoch of the Renaissance, one also sees mullions in the form of caryatides, or of pilasters surrounded by busts. It was scareely until the reign of Louis XIV, that tracery we was definitely renounced; men still employed it at the beginning of the 17 th century to maintain the closures of window openings. The internal windows of the court of the Louvre mere originally fillet with stone mullions of monumental appearance, which gave the name of ladder to those great openings. Those mullions are now replaced by wooden muntins with imposts also of wood, that are scarcely in harmony wit the edifice, which it is nece sary to repaint every ten years, and to renew when they dacay, i.e., two or three times in a centur. Men say that this is more according to the rules of good architecture; why? We should be much embarrassed to say why.

MENUISERIE. Joinery. Woodwork. Cabinet Work.

If the peoples of the North are particularly apt in making works in carpentry, they are no less skilful in giving to wood those forms both delicate, light and stable, that constitute joinery. The art of joinery is further only a branch, derived from the art of the carpenters in the first centuries of the middle ages: the means of execution are the same.

The art of joinery is clearly distinguished from the art of carpentry, when one commences to employ for sawing, cutting and polishing wood very perfect tools. The invention of the saw dates back to a high antiquity; the encients knex the plane, the short and the long jointer. Still until in the 13 th century were often employed for joinery riven woods, wrought by the chisel and the gouge without the aid of the plane.

There remain to us only a very small number of objects in joinery preceding the 13 th century, and in the assemblage those fragments muc resemble carpentry works executed at a small scale. But from the 13 th century the art of joinery ta takes a great flight, possesses its special rules, and arrives at a remarkable degree of perfection. The works in joinery that remain to use from the 14 th and 15 th centuries are often masterpieces in combination, execution and drawing. The traditions of this art retained until the 17 th century result from: - 1, a perfect knowledge of wood: 2, from a sagacious p

As to very existent of construction, the meterial evoluted in jointry bust destruine the properties of assembling entitioned the forms; now wood is a meterial cosse sing seedial properties, that must be taken into account in the combination of works in joinery, just as in the combination of works in cercenter; the artizans of the middle sees fild not wander from this true principle. For knowledge of woods is one of a tie coulitions imposed or whe joiner; that knowledge ceing seed to their texture and strender. The wood that best lends its sold to its restrict, the decrease of its restrict, the fineness of its drability, the fineness of its drability.

oek was exclusively encloyed in the joinery of ourldings.

To be employed in joinery, oak must be perfectly dry, i.e., and new oeen sawn at least six years. If we examine join..., works of the 18 to. 14 to and 15 to centuries, we shall indeed conserve, that the wood has not spread, and it has remained in its connections, and that it presents no creates. This worder sawing that it is that the action of the in water, then piled in open shars inter dry shelters, freedingly that they excited of smoth.

Note 1.p. 216. Thus was prepared the wood, that served for working the stalls of the autheural of fuen. This wood has accurate the appearance of Florentine branks.

The joiners of the mille ages did not use too old rood, to that is subject to order infine, when a subject to order in the course and a firmater at 9.3 is.

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23 the rood. A triax of out that its oracks according

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layers contain more water as they have a greater radius. Then one word relea, the erretoal layers and ink more than the independent from the er ones; there result solits or oracks, all radiating from the

principle of derien; 3, from a judicious use of the material in accordance with its special properties.

As int every system of construction, the material employed in joinery must determine the procedures of assembling and i impose the forms; now wood is a material posse sing special properties, that must be taken into account in the combination of works in joinery, just as in the combination of works in carpentry; the artizans of the middle ages did not wander from this true principle. The knowledge of woods is one of t the conditions imposed on the joiner; that knowledge being acquired, it is necessary to know how to employ them according to their texture and strength. The wood that best lends itself to works in joinery is oak, because of its rigidity, the fineness of its grain, its uniform hardness, its durability and its beauty. So during the middle ages at least in France, oak was exclusively employed in the joinery of buildings.

To be employed in joinery, oak must be perfectly dry, i.e. must have been sawn at least six years. If we examine joinery works of the 13 th, 14 th and 15 th centuries, we shall indeed observe, that the wood has not sprung, that it has remained in its connections, and that it presents no cracks. This wood after sawing was at first left in damp places and even in water, then piled in open sheds under dry shelters, frequently turned and sometimes subjected to the action of smoke. 1

Note 1.p.346. Thus was prepared the wood, that served for making the stalls of the cathedral of Auch. This wood has acquired the appearance of Florentine branze.

The joiners of the middle ages did not use too old wood, t that is subject to crack and spot. They caused to be sawn oaks of 200 to 300 years, i.e., trunks with a diameter at 9.8 ft. above ground that varied from 2.3 to 3.3 ft. inside the sapwood. These trunks were sawn according to different methods, but always taking into account as much as possible the texture of the wood. A trunk of oak that dries cracks according to sketch - (0), which is easy to explain. The concentric layers are harder and more compact as they approach the centre, more porous as they approach the circumference. Thus these layers contain more water as they have a greater radius. When the wood dries, the external layers shrink more than the inner ones; there result splits or cracks, all radiating from the

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are negative to all variations of temperature. In the contraev if this sawing be done to the uscavel direction of the onsoks, toe clanks antink in acts, but can neither solut apr backle, i.e., ourve in the direction of the saxing. Oak in f formed of a measing of lavers line all woods, but to levers are connected by a Find of natural downla, that make ut solid; out se downlist one breathact reve and radiant from the sentre of the trunk. If toen how sawing be done as indicated in the danceer B of the drawing, it is done in the best confibious, it is voted is torqued quarmer-same (percited to the medallery rays). This move of stained is loosing and lotte treet surfaction serion that are merely lates. The best mode of earing effect best is inlicated on the pasteer D. then that aretones on vac quarter 4. As for joiens and timbers, the most so economical sawind is that skewcoed or . The netuallary rays of oak not only dive stiffices to planks saan radially. out aiso propent surfaces with a salky and mavered appearance, a that sing much to the besulay of the wood. Saarber-save ook is sasa bras for joinery.

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la menuiserie, by A Foileau and F Sellot. Forts. 1817. p.48

ittour's folders encloyed stan wise and careas flue, yet the solution of the work first of all depended on the arrandements of equalities by develated or develate.

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no form boards man wasd only paits labe (shout the 15 to companies) relates or consues. They were companied by investalls ten the wood (1), as seen as A; by divine haired and minated as as S; by divine haired and minated as as S; by divine D or cannot D or and rood or even of them. There are elementary constrations

heart of the trunk. If the wood is sawn without regard to this effect of drying, the sawn planks crack or buckle! they a are sensible to all variations of temperature. On the contrary if this sawing be done in the natural direction of the cracks, the planks shrink in width, but can neither split nor buckle, i.e., carve in the direction of the sawing. Oak is f formed of a series of layers like all woods, but these layers are connected by a kind of natural dowels, that make it solid, these dowels are termed medullary rays and radiate from the centre of the trunk. If then the sawing be done as indicated in the quarter B of the drawing, it is done in the best conditions, it is what is termed quarter-sawn (parallel to the medullary rays). This mode of sawing is lengthy and loses many triangular strips that are merely laths. The best mode of sawing after this is indicated on the quarter D, then that sketched on the quarter E. As for joists and timbers, the most eo economical sawing is that sketched on F. The meduallary rays of oak not only give stiffness to planks sawn radially, but also present surfaces with a silky and watered appearance, t that adds much to the beauty of the wood. Quarter-sawn oak is then best for joinery. 1

Note 1.p.347. A auality that we now call Holland oak, and that is still in great part furnished by Champagne. Indeed m much wood for joinery that comes to us from Holland is purchased by Dutch merchants in the forests above Rheims. The mode of sawing our woods makes us dependent on the Dutch. In fact the Dutch saw wood radially, i.e., they make the saw-cuts as much as possible always tending toward the centre of the tree, as practised in the middle ages and as still done by the rivers of stakes (On that subject see Traite de l'evaluation de la menuiserie, by A Boileau and F Bellot. Paris. 1847. p.48 et sea.; also Fassenfratz, Theorie des bois. Paris. 1804.p.1331.

Although joiners employed skin glue and cheese glue, yet the solidity of the work first of all depended on the arrangement of connections by dovetails or dowels.

To join boards men used only quite late (about the 15 th c century) rebates or tongues. They were connected by dovetails let into the wood (1) as seen at A: by strips halved and pinned as at B; by dovetail bars entirely sunk, or by tenons D of hard wood or even of iron. These are elementary combinations

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office of the bourds as placed a cost of encese dies none paress for the boards or planks to single before. By means of a rotation accepte the visible surface is policied and parameters or sciences or triunes are infain to a slight dense, incorping to translation that the pine doors of the harmalary-war-value, that dake from the 11 to meabour. This second are necessary and the first and translated as the december of lead of the density.

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that have been employed in all times. Indeed works in wood f frog Egyptian antiquity are made by these procedures. On the edges of the boards is placed a coat of cheese glue that causes the boards or planks to adhere together. By means of a rounded scraper the visible surface is polished and painted, or ornaments or figures are inlaid to a slight depth. According to these processes ar made the pine doors of the cathedral of Puy-en-Velay, that date from the 11 th century. These ornaments are slightly carved in relief and themselves as well a as the grounds are covered by paintings on a trace of lead o oxide (minium). 1

Note 1.p.348. Much of the old joinery retains traces of a coating with red lead, and that coating has contributed singularly to their preservation. This process was renewed a dozen years since by us and gives excellent results. It is generally adopted today. (See in regard to the joinery and polishing of boards the work of the mank Theophilus. Diversarum artium schedula. Book I. Chapter 17).

Two principal conditions seem to have been imposed on the works of joinery of the middle ages; economy of material and the greatest possible strength left to the wood at the joints. -- Economy of the material in that reinforcements are avoided when they could not be included within the squared timber; f for example in that panels never have more than the width of a board, i.e., at most 8.7 ins.; the muntins and cross-bars (stiles and rails) at most 3.2 ins. for ordinary works .---The greatest possible strength is left to the mood at the joints. in that chamfers. reductions and moduldings stop where a joint is necessary. The observation of these two conditions gives a particular character to the joinery. If the material be economized, if it be employed in accordance with its properties, the workmanship is lavished, as if to emphasize the precious properties of the wood; for it should not be forgotten that during the middle ages the workmanship is always according to the value of the material: it is superior to that but is in a relative proportion.

The joiners of the middle ages took into account the value of the wood, just as the stonecutters took into account the value of the stone. There is a just idea, the true principle and a feeling of economy that imposes attention and study wi-

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without injury to the art, for it is art. Those artizans thought that a material so precious as wood, that grows slowly a and requires long preparation to be definitely placed in the work, merits that it should not be wasted . and that the idea of its value is given by the care with which it is wrought. Those artizans did not give to joinery of pine. larch or fir. the forms permitted by the use of oak or walnut. Observing t the special qualities of the different species, they held to lightness combined with solidity, which is the first law of joinery, as we have already stated. consequently it would have never occurred to them in thought to imitate in joinery t the forms proper for stone; they never applied to joinery great curves that require considerable loss and require wood to be cut across the grain. All their combinations are based on the straight line, at least for the members. The study of this art, so greatly out of its path tsday, is then interesting: for with a system of construction very restricted, dimensions comprised in those of the wood uniformly sawn, those artizans succeeded in inventing the most varied and most ingenious combinations without ever being stopped by the difficulties presented by those combinations.

It is necessary for us to classify the works of joinery by kinds, so as to place order in this Article. We shall commence with those simplest in principle, with grilles, i.e., assemblages of pieces of wood of equal sizes, forming open closures in a single plane, in brief, grilles.

CLOTURES; CLAIRE-VOIES; CLOTETS; LAMBRIS.

Grilles, Sashes, Panels, Wainscot, Doors.

Here (2) is one of those wooden grilles as seen in the cathedral of Basle and in some churches of the provinces of the Bast. From a simple lattice of timbers halved together the joiner came to make a grille of monumental appearance. The principle stated above, that consists in leaving the wood all its strength at the joints is scrupulously observed; but between those joints at the openings the workman has used chamfers that form a decoration and take from that so simple a combination the rude appearance, that it would have if the pieces had remained square. 1

Note 1.p.350. This érille retains forms belonéiné to the Romanesaue epoch, although we do not believe it to have been made

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in the framerork are dilled by small banels simply set in the rebased in a frame. (See section A).

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sev of the midrie sies is to be weenbled, to recain a locate structure in perfect accordance with the form. There exist in Etaly, Spain and aven in the S tent joiner, works of cermica appearance, then abbreve receive cinameter accessors, then abbreve their exceptive cinameter and com-

trinsion of boses works, as soon percities that wars sappeads as abstraction and accorde to the lightness is only arternal, the construction as of war mideas; for example, such

aldines attaced and native on a ground of boseds planed perchades as each other rather deem a seroled; such the bid cerved not-be selected on each other in a pharming dealer, but the decoration and accepting as all numbers dealer, but the decoration and as all numbers as the construct dealers, the decoration of the local and are accepted to a selected and accepted to a selected and certain by dords, earlied near another, and created by dords, earlied noof, just as in a olicit of marble. For maiding are out abnose the desir, the joines of marble. For maiding a relief, no matter. Retween the local acceptance of the material and the mode of presenting as a near or neckson; the joiner and the ertist are two med but nock acceptated of the rather as an area of colocks; the areas of the fine and a sensity as area of olocks; the areas is only a scalpter period nother for the actual actual actual accepts the material and the accepted for the acceptance of the material and the accepted to him, certained the for the actual accepts of the material applied to him, certainly those noths accepted at the case of the material applied to him, certainly those noths

before the 14 th century.

Here also (3) is an example of a framework forming a solid wainscot. The muntins and rails are the same and halved together, chamfered between the join s. The square openings left in the framework are filled by small panels simply set in the rebates like panels in a frame. (See section A).<sup>2</sup>

Note 2.p.350. From the city hall at Chent. (15 th century).

This sort of wooden grille was much used in the middle ages in castles and houses; frequently the great halls were divided by grilles of this kind, movable and that were placed when it was desired to obtain temporary divisions. In winter tapestries were suspended on these grilles; in summer they remained open. These movable divisions termed "clotets" were often very richly ornamented, having open panels and formed interlacings, the members ingeniously assembled, always by halving. For do not forget that the dominant character in French joinery of the middle ages is to be assembled, to retain a logical structure in perfect accordance with the form. There exist in Italy, Spain and even in the Orient joinery works of charming appearance, that attract by their excessive richness and complex combination; but when one attentively examines the constraction of those works, he soon perceives that this structure nowise accords with the appearance. The lightness is only external, the construction is of the rudest; for example, such is that seeu in the Arab joinery of Spain, in a facing of mouldings mitered and nailed on a ground of boards placed beside each other rather than a sembled. such are the carved works glued on and applied on each other in a charming design, b but that decoration not according at all with true construction: and as one can observe in certain cabinet works of Italy and even in dermany of the middle ages, there are actual logs of wood connected by dowels, across which run mouldings, reliefs and ornaments, cut in the solid wood, just as in a block of marble. The mouldings are cut across the grain, the joints fall in the middle of a relief, no matter. Between the use of the material and the mode of ornamenting is no harmony or connection: the joiner and the artist are two men that work separately after each other. The joiner is merely an assembler of blocks: the artist is only a sculptor caring nothing for the nature of the material supplied to him. certainly those works

a be seen beautiful from the count of view of the art of

assessery for no to eroline that and to claim those our listes so traity France? Why are they sooned and forforten? Phose shocks in word of the trade and orientais have at least received as the trade of social jointry, and if the artist as no not assessed them, and no longer know not to notly be the conservation, at least they remodes the socialishes out on the respective of the rade of trade stars that follows, not of that rade is the trade of the last that follows along the location of the second that one respective of the rade of the rade of the location of the second second.

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iron bin K wish sweepers and rivited. In the front of each newscon the corners are chamfered as in italied by the detail

also doveded to form state white aix points, composed of the interacestud entitles. He sees here that if the principle is smalle and and metarish is common, the workfactors of each to excite mais on a b, and at 2 is a corsolative datail of the person O taken notify. It is minous early to empetite the solidity and perfect training of this if the liables, whose effect is very orilliant. This sort of joinery works were nearly access to the training of the example five nace the promise being mind. It is the chart of the front of order of the fines. Thus in the example fiven here the promise being mind.

can be very beautiful from the point of view of the art of the sculptor, but one cannot regard them as joinery. Why is it necessary for us to explain thus and to claim those qualities so truly French? Why are they scorned and forgotten? Those we works in wood of the Arabs and orientals have at least retained the traditional form of actual joineey, and if the artizans do not understand them, and no longer know how to apply to the construction, at least they respect the appearance; but one cannot say as much of Italian joinery, nor of that made in France since the 17 th century in imitation, and contrary to our eminently logical spirit.

Note 1.p.352. We have frequently been called to remove joinery of the 17 th and 18 th centuries. One cannot understand
how sculpture, often so delicate, and charming ornamentation,
could be allied to construction so crude and unreasonable. T
The beautiful stalls of Notre Dame of Paris, that date from
the beginning of the last century (18 th), are an example of
that combination of barbarous means masked under the richest
appearance.

Here (4) is one of those grilles of fir such as one still sees in the provinces of the East and on the vignettes of m manuscripts or paintings of the 15 th century. 2 The system consists of tringles of fir pieces 1.6 ins. square. On the muntins A are halved the pieces B. On these the pieces C, D and E: on these last the muntins, all being halved. The entire work is maintained in the frame G H I made of pieces 3.2 ins. thick by 3.7 ins. wide. At each halved joint is a soft iron bin K with two washers and riveted. On the front of each hexagon the corners are chamfered as indicated by the detail. L. and in the open triangles M. the edges of the triangles are also notched to form stars with six points, composed of two intersecting equilateral triangles. One sees here that if the principle is simple and the material is common, the workmansnip assumes a certain importance. At N we have given a section of the grille made on a b, and at P is a perspective detail of the portion O taken apart. It is unnecessary to emphasize the solidity and perfect rigidity of this light lattice, whose effect is very brilliant. This sort of joinery works were nearly always painted in light colors enhanced by brown or black lines. Thus in the example given here the grounds being white,

the ensurer of the heardoos are reddish brond, as well as the

s tain black line. The wassers and iron rivers were also paid and black.

Lote 2.p. 352. That is here fiven was drown by us of Lunsil.

We could nultraly these examples, but remore of and traiswill appreciate the entire system to be derived from sises combinations straight the bound necessary to emphasize it.

In Fr. nos joiners of enc 14 th denterry are contin mosss in these indered case to the socks of the orientthe matticket above, our score etchetare newers is more sign-

formed of joines boarns, received in a trame! to prevnue the coarsers from Desting and provided in muon as to account one olses places professes, at least on one size, as joiner placed there son a lattice of light precess trived notestant, and forming decompliant roughlanding tore or less complicated. The first auxiliars of the boarns was aven frequently carved in low religionable the soulptire was coldined in the thresholds of the compartments formed by the lattice.

dere (5) is an exercis of those vocks of joinery. The joinas of the boards at.6 ans. wide, who marked on our descine. I the lassize is from the ten that our nembers of the fr-

pourds at wash intersection, this forming a perfectly cidid suchace, that breath the wash of his letter ice is halved at the modificial ice is halved at the modificate such is such as such in the citikness of the

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the cathedrol of Terplench in 1884, and served as a walneapt in chapel &. Jean. It was of fir.

Saa mili addrestend now serios of wood att saed to baseds and interesection in the interesections made aminosin them in their

the chamfer of the hexagons are reddish brown, as well as the three notches of the stars! the latter were also bordered by a thin black line. The washers and iron rivets were also painted black.

Note 2.p.352. What is here given was drawn by us at Luxeil.

We could multiply these examples, but members of the trade will appreciate the entire system to be derived from these combinations without its being necessary to emphasize it.

In French joinery of the 14 th century are certain works t that indeed have some resemblance to the works of the orientals mentioned above, but whose structure however is more reasonable. Those enclosures, barriers and wainscots were simply formed of joined boards, rebated in a frame, to prevent the boards from bending and buckling as much as to decorate the plane surfaces, at least on one side, the joiner placed thereon a lattice of light pieces halved together, and forming g geometrical combinations more or less complicated. The flat surface of the boards was even frequently carved in low relief (since the sculpture was obtained in the thickness of these boards) in the compartments formed by the lattice.

Here (5) is an example of those works of jointry. The joints of the boards 12.6 lins. wide, are marked on our drawing. The lattice is framed at its ends into the members of the frame, as indicated at a (see detail A) and is nailed to the boards at each intersection, thus forming a perfectly rigid surface, that prevents the warping of this ground. This lattice is halved at the joints with dovetails at the mouldings as shown at b. The section C gives at c the thickness of the board and at d that of the lattice. A balustrade of little turned columns surmounted the cap D, at certain distances posts E maintain the whole. At F we give the profile of this upper cap f; at G is the profile of the rail g, and at h is the profile of the lower rail h. We shall see at once the leaves of the door of the church of Gannat, combined on the same principle.

Note 1.p.354. This work of joinery existed in fragments in the cathedral of Perpignan in 1834, and served as a wainscot in chapel S. Jean. It was of fir.

One will understand how strips of wood attached to beards and intersecting in all directions must maintain them in their

on network: this delies is now only contind decomption, but is composed of excess easeroles todether and holds it said. From the 18 th century were feshioned in France works of joinary to which the exatter of casels inserted to recoted was a shootes; but then then tenerally with todether and froves.

To give (1) one of values owneds, shown in frome et 4, in section av 5, api in northwhold section at c. This system merits some abtication. A rainteept is convocat of markins and raits, between anion are growed in panels. For ond murbins forming one entreations of one weighted receive too rails by tenons and northwest varies the interpretation and varies the markins are tenon-termediate markin. In this case the modified B of the rail is

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plane. However this system is exceptional in the joinery works of the middle ages in that we do not find the panels inserted in rebates, but as a simple ground on which is nailed a wooden network; this grille is not only applied decoration, but is composed of pieces assembled together and holds it self. From the 13 th century were fashioned in France works of joinery in which the system of panels inserted in rebates was a adopted; but then generally with tongues and grooves.

We give (6) one of those panels, shown in front at A. in s section at B, and in horizontal section at B'. This system m merits some attention. A wainscot is composed of muntins and rails, between which are grooved in panels. The end muntins forming the extremities of the wainscot receive the rails by tenons and morteses: while the intermediate muntins are tenoned into the rails. At C is seen an end munting at D is an intermediate muntin. In this case the moulding E of the rail is struck through without taking account of the joints. Then when it is necessary to connect the intermediate muntins, the moulding is cut away as indicated at m. Hence that moulding abuts against the heads of the muntins. Those are only chamfered or moulded on their free parts; the chamfers or mouldings stop at G by a cut, and leave to the muntin all its strength at the connections and to avoid always defective mitred joints. The panels H are inserted in grooves according to section I: if they are thinned at their edges to enter the grooves, they retain all their thickness at the centre as marked in section B' at K. These panels are loose in their grooves and can shrink without inconveniences. The muntin and rails being assembled at right angles, the shrinkage due to the drying of the wood appears only in the joints, as always occurs in mitred joints. The entire system shrinks together. We give at L different modes of assembling the muntins and rails of the wainscot. At M the muntins have mouldings extending th through without taking account of the junctions of the rails and have the stops m at each connection. At N the muntins and rails both have stops at the connections of the muntins with the bottom rails or plinths. At M"N"O" are the horizontal sections of the panels with the muntins.

When the wainscot is high it is necessary to divide its height by one or several intermediate rails that prevent too

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the frame / is rounded to a quarter direct to continue alone

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long panels, always likely to warp. Thus (7) let a wainscot be 5.3 ft. high, one will first have a base or plinth A, into which will be tongued the bottom rail 8. On this bottom rail will be assembled the intermediate muntins q, and itself will be tenoned into the end stiles D. The same system reversed w will be adapted for the top rail F and the cap E. But at G will be tenoned between the muntins cross rails H, so as to r reduce the length of the panels as we have stated. When this refers to wainscot attached to walls, these will often be simply set in rebates, as indicated in section I and retained by some iron clips. These panels nowisé affect the framework, a and if they are made of dry wood, having only the width of a riven board or one sawn as we stated at the beginning of this Article, the entire work will suffer changes of temperature w without inconveniences. For the principal question in works of joinery is always to leave the wood the ability to swell o or shrink without affecting the connections. The tenons K of the muntins pass through the top rail and the cap so as to p prevent the warping of the latter, that does not fail to occor when these caps or mouldings are simply tongued into the top rail. Indeed, the thickness of these caps or mouldings being greater than that of the top rail, when they warp they have more power to split off the tongue made with the grain. This system of paneled wainscot was adopted during the 13 th and 14 th centuries with varying profiles. As for the connections they are always full up to the 15 th century, i.e., made in the members retaining their souare forms.

The example that we give in Fig. 7 shows the mouldings of all the rails struck without stops and those of the muntins with stops at the connections. Even when the moulding enclosing the panel extends on the muntins and rails without stops, as we see practised frequently in wainscot of the 15 th century, mitred joints are avoided. We find an example of one of the pretty wainscots that line the chapels of the nave of the church of Semur-en-Auxois (8). The muntins and rails of this wainscot are 1.6 ins. thick; it is seen that the profile of the frame A is rounded in a quarter circle to continue along the muntins, but the connections are always solid and without mitres. This enclosing moulding does not retarn on the intermediate rail B, and that has slight chamfers with stops at

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each joint. As for the lower panels, they have no enclosing mouldings but chamfers as if to give more solidity to this base. A cap C, whose profile is given at C', is nailed on the face of the top rail. In the upper frieze D, perforated panels are set lengthwise to lighten the woodwork. The solid panels are only 7.9 ins. wide (9 ins. including tongues), 3/8 in. thick at the edges, but are reinforced by those projections r representing folded parchments. (See the horizontal section E made at the level e, and the section F made at the level f). At G is traced the vertical section of the wainscot, at H is the profile of the rail A, and at I is the stop of the enclosing moulding at the cross rail.

We give (9) several examples of these reinforcements of panels representing folded parchments. Example A shows the little decorated rolls passing behind those parchments.

In joinery preceding the 15 th century it was often customary, especially for furniture, to cover the panels with ass' skin or linen glued on the wood by means of cheese or skin glue. When this woodwork became old these facings must in part leave the warped wood; hence the folds of the recurved edges. It is to be presumed that the joiners had the idea of deriving from these accidents an ornamental motive and a means of giving thickness to the panels, while leaving their edges and t tongues very thin. Hence those panels with folded parchments so much in vogue during the 15 th and the beginning of the 16 th centuries.

Our workmen of the middle ages were not only skilled artizans, but they were observers, attentive to profit by all that chance caused them to discover. A defect, the effect of time on the materials, became for them a motive of improvement or of ornament. loving their trade because it was the result of thoughtful labor, and not a vague and unexplained tradition of a foreign art, they followed their own genius, invented n new combinations in the daily observation in the workshop, wi without borrowing outside the forms, whose meaning no longer had any meaning for them. Architects for a long time have already diverted joinery from its true line by desiring to impose on it forms not in harmony with its resources. During the two last centurier have been imitated many things by the aid of joinery, stucco, marble, stone, bronze, columns, hangings,

projective cornices, arches , alt excutted joiner. and take is the name of drawn clausical art. In the contrary it sould fater or egosa, 2000 hatte of estimoo are lectuals such mesa according to the properties peculiar to each of there esteria als. If se open a treatise or joiner, of those lest tires, se segors .aber are somuloc maidining wor Tasks ase mend liede act totersections of ourves, correls, travels site timeses a and charks, so as to initate in sood masonry works; bos are unde doors with mids frames, comsoles and cornices projectand to fit. now all that can only be fired by action, bars, acress and plue. It test joiners awas ended by no loper knowing to execute actual poincer, and that only for a seal number of years some of thez nave commenced to leary again that err, prectised four aunited years mince with so much knowledge end tasta. We it is always in the provinces of the north that the sought works in pointry rockly of this name. Let us nos occacy ourselves with doors, solid or open leaves and winious. .savas. .sacci .....

nomer come of beattace for little av sent accordance of resinance do not precede tes il to century, and it must be r sent very see after venior send about test that the sery rune. ve telegob . sania is nich vionis to saires a to Jaiages year. other clanks so arrended as to ou fastered to the former by mails. According to this prisoirie are erranged the leaves of end to test a box velsy-ne-val to farthagen end to amon end toor of the carres of Joults-Daines (1). To see igner side and no exert forto; To series a sino resuge scot erad to a exierior " other plants are piaces across the forest are nailed, presentiat an appearance of casels povered by fist organeques. It is diven toe section of the moor made on a c. This sort of lathery is entirely oriented, like the ornerinte -lisco The Joh abiliscence healing and end .Jr ejencet jedi nations out light and solin, that concord acres of 'classis They are staided by the tenio does no teller along one seem To socious that coose, one still sees in the crovinges of one spice of rence doors, that start from the same principle, tenues iers rulely executed. There exists in the charge of & -succ at teel abse erent . (11) zaveel cas afte root a same osed of four joined boards. To make them sold and to prevent I spendant macer a circula decale see carron ser conserva

projecting cornices, arches, all excepting joinery, and this in the name of grand classical art. On the contrary it would seem that classical art consists in using wood, stone or metalaccording to the properties peculiar to each of those materials. If we open a treatise on joinery of those last times, we shall then see what? How Corinthian columns are made, arches and intersections of curves, corbels, trumpets with timbers a and planks, so as to imitate in wood masonry works; how are made doors with wide frames, consoles and corpices projecting 1.6 ft., how all that can only be fixed by angles, bars, screws and glue. So that joiners have ended by no longer knewing to execute actual joinery, and that only for a small musber of years some of them have commenced to leary again that art, practised four hundred years wince with so such knowledge and taste. But it is always in the provinces of the north that must be sought works in joinery worthy of this name. Let us now occupy ourselves with doors, solid or open leaves and windows.

HUIS. Doors. Leaves.

The oldest doors that we still find scattered in some Fremsh provinces do not precede the 11 th century, and it must be r stated that at that epoch these joinery works are very rude. They consist of a series of simply joined planks, doubled by other planks so arranged as to be fastened to the former by nails. According to this principle are arranged the leaves of the doors of the cathedral of Puy-en-Velay and a leaf of the . door of the church of Voulte-Chilhac (10). On the inner side . A of this door appear only a series of joined planks; on the exterior B other planks are placed across the former and are nailed, presenting an appearance of panels covered by flat organizate. 1 At C is given the section of the door made on a b. This sort of Moinery is entirely oriental, like the ornaments that decorate it. One sees neither conncetions not any combinations both light and solid, that compose works of joinery. These are planks nailed on each other and nothing more. Very much later than that epoch, one still sees in the provinces of the centre of France doors, that start from the same principle, though less rudely executed. There exists in the church of @ Gannat a door with two leaves (11), where each leaf is composed of four joined boards. To make them solid and to prevent warping, the workman has placed outside a wooden framework f

To print acardy and the contract and a second transfer to the contract the foor. The detail . Five shad se distal and accept the to exercise as to efem eds sessiblist fiasec. However si the stiles and reals of the framework, the section 7 paints a made on a b of tak section ? on e f. Crements the perspective connection of the rail, and " in the section at the las. To eithe end is ine at been intog bromath erause oftw ling A each connection and is the rails and stiles between the conneeloues even street eas to state; ses is elise easil . enorice contes, climbed at right and left as seen at 7. This work is solid, since it has remained in place since too it to century; necon fact is not a form of joinery as one sees it at that enough to save earlier in the provinces of the "orthe. "or leaves or -enilos are has by hinder mailed on the inside, as indicated in 410. A. The boards and the framework are of oak, and f further the mhole is well executed.

Note 1.0.381. The the interesting details of this door in Architecture at les arts out an imperient, by \$. "ollhoboud.TI.

Note 1.0.381. This divortes one pranumicated to us by \$. XM.

Let. orchitect.

Tie. 12 abone us the old leaves of the door of the unver w. "hapelle of Paris. This ork of joiner; lates from the militia of the 1? the contury, like the edifice, it was formerly techfeel a paintiese potains and touide. At A we present a leaf a lo alerence malaye and ... binico al se " sa "abieri sos co frame afrondly connected with two abiles, three read of the of noop and to indias engine and retenent of befores alance the pinces. The rails are fixed to the stiles by dovetails, and the diadonals are bored besides the tenone, thus attendtagging the work. In this frame are nailed boards tondued and dropyed; and believed to the said of the self and the selfertereal boards. At C se maye invicated the section of those pases. The hindes are placed maids on those rails . -- Te have elbbin and no agerda evana seeds to and elants a vinc areve hedrenento apente pori nist vo eciato telcuch era vent lier or socretion. This those calls first therselves held general to tagents and and the nation of the mise strap are rivered b sell year the erace date alter esteed seeds or vilenteses discond needs also connect ten boards and the framework. The said and its soull aton, suspe, according to the said forming mearly square panels. At A is presented the inside of the door. The detail B gives half of the extent of a leaf with its framework, detail C indicates the mode of assemblage of the stiles and rails of the framework, the section D being a made on a b of the section P on e f. G presents the perspective connection of the rail, and F is the section at the lap. A nail with square diamend point head is set at the middle of each connection and in the rails and stiles between the connections. These mails at the joints of the boards have double . popits, clinched at right and left as seen at D. This work is solid, since it has remained in place since the 14 th century! but that is not a work of joinery as one sees it at that epoch and even earlier in the provinces of the North. The leaves of that door are hung by hinges nailed on the inside, as indicated in Rig. A. The boards and the framework are of oak, and f further the whole is well executed.

Note 1.p.361. See the interesting details of this door in trobitecture et les orts qui en dependent, by \$. Gailhebaud.II. Note 2.p.361. This drawing was communicated to we by \$. \*\*\* Let. architect.

Fig. 12 shows us the old leaves of the door of the upper S. Thanelle of Paris. This work of joinery dates from the middle of the 13 th century, like the edifice. it was formerly decorated by paintings outside and inside. At A we present a leaf on the inside at B on the outside. The system consists of a frame strongly consected with two stiles, three rails and digonals intended to transfer the entire weight of the door to the hinger. The rails are fixed to the stiles by dovetails, and the diagonals are boxed besides the tenons, thus strengthening the work. On this frame are nailed boards tongued and grouped: then the decoration in this wood is mailed on these external boards. At C we have indicated the section of these bases. The hinges are placed inside on these rails .-- We have drawn only a single one of these hinge straps on the middle rail, they are doubled outside by thin iron straps ornamented by engraving. Thus those rails find themselves held between t two iron bands, and the nails of the hinge straps are riveted externally on these bands. Nails with square and very flat d diamond heads also connect the boards and the framework. The gable with its equilateral arch, cusps, crockets and little

columns, is only a facing celd by breds. A strike existed at the janction of the two leaves with a sentralation ruliion, and it forms a sort of little juttrers on the edge of the last. In the inside the etiles, rails and disconsis are observed between the connections and raid too menters lighter. Those leaves were very much describe by sinkels out through the former alone parts, and cast be replaced during the restorations.

The use of this system of doors is very corross during the 12 to and 14 th centuries. It is light and solid, and lends itself well to placing the fixtures for baseing. The doors of the catuedral of paris, decorated externally by the beautiful irromark so well known, are castined in the same manner and oropably date from the beautiful of the from the beautiful of the form the they have been rabilit. Their outer surface censers the ironary six originally covered by very bright of casating of a laky tone.

adi lo marmet edd searcher, idida eraidio lo larbedus edl doors that data from the performed of the is to century. Faces soris of joinery nave a certain interest, because tear serve ocius no smerl & la becompo sevel sit morl nollienera & me a section as the contract of the teath as the least a terior and ercoved into the frame itself. Jurib -- have of tease ire ver and algebra farmaged vion without and all the area one seistic est and . Je the chiest and art a se seveel escal to the stiles a and a sectorist than the top and cotton ratio; ned at a self. C vice and testal and elan and i. F era year the reference tells. The view are view sizes are referenced to same totokouse and assembled between tosse rails and receive onneig cetween tage, as snown at C and the delai ". " and at eas sieuse and has Aleksian enigns and retragra and sare clace, and these capels are distriblished from the object -notal: . This to it is telegiant level and a self the cares -icing resor lies just eniven the C estate end ofth terest ele nees over the leaf from tempolety being most teat and theveso sees svilcecone a tesent at I is addiss of the consentation of -iterresni and data plancheit and it neighbored and lo linget accideers for the state occupants and its state accidence at a state and a sta -izni bedonilo ajnico bidach ina abasa spance njiw 7 slisn vo de. At I he traced the detail of the strike, firmished with

columns, is only a facing held by brade. A strike existed at the junction of the two leaves with a centralstone multion, and it forms a sort of little buttress on the edge of the leaf. On the inside the stiles, rails and diagonals are chanfered between the connections and make the members lighter. Those leaves were very much changed by wickets out through the doors and were almost entirely decayed in their lowe parts, and must be replaced during the restorations.

The use of this system of doors is very common during the 13 th and 14 th centuries. It is light and solid, and lends itself well to placing the fixtures for hanging. The doors of the cathedral of paris, decorated externally by the beautiful ironwork so well known, are combined in the same manner and probably date from the beginning of the 13 th century, for me do not think that they have been rebuilt. Their eater surface beneath the ironwork was originally covered by very bright p painting of a laky tone.

The cathedral of Poitiers still possesses the leaves of its doors that date from the beginning of the 14 th century. These morks of joinery have a certain interest, because they serve as a transition from the leaves composed of a frame on which was applied a covering of oak planks on the leaves with panels grooved into the frame itself. Further some of these leaves are already furnished with wickets. Fig. 12 bis presents one of those leaves at A for the inside and at B for the outside. The stiles a and b are thicker than the top and bottom rails: they are 5.1 ins. while the latter are only 3.9 ins. As for the intermediate rails, they are only 3.2 ins. Stiles of the same thickness are assembled between these rails and receive panels between them, as shown at C. D and the detail P. On t the exterior the entire framework and the panels are in the same plane, and these panels are distinguished from the other parts only by a sunk bevel indicated at G in detail R. Diagonals framed into the stiles C and having but half their thickness prevent the leaf from being deformed and from straining the connections by its weight. At I is traced a perspective detail of the connection of the diagonals with the intermediate stiles: These pieces are connected at their intersections by nails K with square heads and double points clinched inside. At L is traced the detail of the strike, furnished with a

ittels octadonal column orasecting outside. It i the name tal appear at the scale of 1: 10.

It was only at the end of the 24 to century that joiners on understook to but a censel doors, i.e., with similar extensal and internal faces, concosed of cuites and raths retained with serie drooved boards eith recales or confine. In course of faces will consesses at the periodict of the side sieles of the order on the Voth side a door of the hind, alon lates from the and of the century ().

our to immorate rect ains to menel and to not novit ai A su -reset agade sent and tortes and targe series and ei - Ji elist est citi terones enideur oud ins elist estite " bidger eleifeaved a end nim C linh a to finish and nearb league income as si. ? It . A lenger sad to have and of respendence indians was at the conform out and live leads a to ocidose es i de respenti gladd foe sinese ovd adam fren a To neidese give the perspective istail of a caule resives, its unner a end de consultate tou tenets are recommon as a trace sings should not the . Todd ten and in bedsofter as slithin of the munting and rails tust receive beauteen the tonin Jane to the case of the alseanare. At the lawer our to same trainer siler and to discuss too er lines a least to an an action of the same roughs, as as to set oaken dast. These rounts are entered end upper part of the usants and stop on the lover charles. the almost the err . I tradef . vilocular the to folder if my ag - as all said to a little and the earlies are the first and the contract a about and but board one is and is a count on a be - Figres fee once and to therethe agent by There fee erecor os. It is sell intervious they been in of our, like the 

of the 14 to security only recently and to tology; the coming to de from the color of the color to sold sold sold a file file. The call of the colors of an electric fraction of the colors of the col

little octagonal column projecting outside, 0 being the capital shown at o, R the ring r, S the base s. These details are at the scale of 1: 10.

It was only at the end of the 14 th century that joiners unundertook to make pasel doors, i.e., with similar external and
internal faces, composed of stiles and rails between which we
were grooved boards with rebates or tangues. The church of N
Notre Dame of Beaune still possesses at the beginning of the
side aisles of the choir on the North side a door of that kind,
which dates from the end of the 14 th century (13).

At A is given one of the faces of this door composed of two side stiles, two top and bottom rails, and three other intermediate rails and two muntims tenoned into the rails. At B is drawn the detail of a rail C with the intermediate muntin D connected to the end of the panel E. At F is the horizontal section of a panel wit the two mustiss; at G is the vertical section of a rail with two panels and their tongues; at H we give the perspective detail of a muntin removed, its upper e and being at a. Already the panels are reinforced at their middle as indicated by the section F, and the little rounds of the munting and rails that receive between them the tongues of the panels left free elsewhere. At the lower part of these panels chamfers out through on the rails replace these rounds, so as to not catch dust. These rounds are mitted at the upper part of the panels and stop on the lower chamfers as indicated by our perspective detail H. Thus the rounds and chamfers can be struck along the muntins and rails without ststops, and the joints being made later, by cutting away the rounds and chamfers where necessary to make stops and mortises. It is well understood that this door is of oak, like the preceding examples.

gut the 14 th century made remarkable works in joinesy. there remain to us from that epoch very beautiful stalls (Art. Stalle), fragments of woodwork wrought and assembled by the hand of a master. Neglect, love of change and false taste have allowed or caused to disappear a prodictions number of these art works. It is necessary today to seek the remains in some museums, to collect some traces of them preserved by old engravience or drawings. Normandy, Picardy, Champagne and Burgundy, were particularly rich in beautiful works of joinery. The lea-

level of the notice of necotation in road. Applications of proposed and seed reposed a contract of necotation in road. Applications of proposed recotations, covering of the taste forms, to give tes wood the propest forms, yet without appearance to give the principles of true construction, that cortain to coincey, from sometimes of true construction, that cortain to coincey, and if they were necelect in the leaven opened at any moment, without were made in them, as could be noted at ear moment, without were made in them, as could be noted at early to the example divid in lid. If the

Fare (14) is one of those joses. The frasevore is composed of two mise stiles, two top and control rails, the mise intermediate rail, two inatonals E foreins a dable, and two intermediate mintips. In mived to the diseponals in the apper our and service as stiles for the minter in the loser park. The pages a of the under continuents over and probably elements of the appetraction water on a 1, samint the angle of the intermediate near the section water on a 1, samint the super of the rable; at the section rails of the section sair of the minter the the factor of the section sair of the minter the call of the mintermediate of the section sair of the section sair of the mintermediate of the section of the secti

the medical mais on the later rail with the strike that the east of the strike of the lateral name of the later part, at I the section water of the eathrety, art at a that of the details.

endersy. The down a drawing from the collection of the late concerns. The down of the drawing the base still excelses at the end of the last (18 th) century.

pages sail erts table of the south portal of the factoral art table of fourtees, table of the south portal of the case of the court of the case of the original of the case of the original of the case of the original form of the majoral of the lighteet of the majoral of the terms of the category of the category of the most remarkable. There were fresheatly each for citains yesticales, chese leaves with opening the terms of the case of the original of the terms of the category of the category these leaves with opening the category these leaves with opening yesticales, charter. These leaves with opening were even a method from a charter. These leaves with opening were even a method of could be folded like our southers, so as to are occarred out could be folded like our southers, so as to are occarred out could be folded like our southers, so as to are occarred out could be folded like our southers, so as to are occarred out could be folded like our southers, so as to are occarred out could be folded like our southers.

leaves of the doors, very simple until that epoch, became afterwards a motive of deceration in wood. Applications of bronze were renounced, also historical ironwork, coverings of painted leather, to give the wood the richest forms, yet without abandoning the principles of true construction, that pertain to joinery. Then sometimes openings were left in the leaves of doors, and if they were of too large dimensions to be opened at any moment, wickets were made in them, as could be noted already in the example given in Fig. 12 bis.

Here (14) is one of those doors. Its framework is composed of two wide stiles, two top and bottom rails, the wide intermediate rail, two diagonals B forming a gable, and two intermediate muntims G, halved to the diagonals in the upper part and serving as stiles for the wicket in the lower part. The panels A of the upper portion were open and probably glazed. To make the construction of this great leaf understood, we give at D the section made on a b, showing the caps of the intermediate muntims, at E is the section made on c d of the gable; at F the section made on g h, at G the section made on the intermediate rail e with the strike i of the wicket, at K the section made on the lower rail with the strike i of the wicket; at O P the vertical section made on the lateral panels of the lower part, at R the section made on n p; at S the scale of the entirety, and at s is that of the details.

garneray. This door opened on one of the great halls of the abbey S. Ouen at Rouen, and it seems to have still existed at the end of the last (18 th) century.

There still exist a good number of leaves of the 15 th century; we shall cite those of the south portal of the cathedral
of Bourges, those of the principal portal of the church Notre
pame of Beaune, those of the principal foor of the mansion of
Jacques Coeur at Bourges, those of the outer portal of the l
library of the cathedral of Rosen, those of the hospital of
Beaune, as among the most remarkable. There were frequently
employed in the 15 th century these leaves with openings, either for closing vestibules, chapels, oratories or even closets, i.e., cabinets opening from a chamber. These leaves with
openings were even sometimes divided and could be folded like
our shutters, so as to not occupy space in the little rooms

easte and to senerally said the entrance of the said also also escot send to ene caura ne 'asar-e-laxots one of those doors estated with perfect twate (11). Tale foor le composet of e sod Jasserd on a JA . stree cut of harbled dose . wevest cut evertor of a leaf and at F the interior. The northwestal acclevel and de S resides and to a level and de abes as 2 cold cut and ic saling and tra ? se redaritor at notaivit sai . reads of "c moison bos vertical section of the upper de d a notione add at " JA . lier atelegraphs and to the lier full size. This procesy foinces still retains its ironwork, w e sidd is very finely executed (Art. Servicereic), all this o opens easily suf is screenale to the band; it is indeed joint red star ins files . Inspels the John . Inspeltage na Jo vrs derly use. Consver notated is note simple than its construction, as snown by our wish. Here the souldings and osing the sas bergin for was jid .accos sichsin benauser ere eleged scarre returns of these mouldiers being out scross the drain so the marking. The erotate the strike of continue and he -of . I stablect end exil soldant out ac bearing ets sacraivit ere are neither oaily oor screen; the iron fixtures alone are - dies resign of clion vary shilfully arranged to resken seither these fixtures our tas wood.

Taking the essbes of vicious were placed in the environts solid or open sultants, that were soled leaves. The opening of trees enditers were soledines sade in that lover portion to allow one to look outside without opening the shutters.

The, if represents one of these subters i hade point out naid of west intohness; the principal frame & (see section hade on a b) encloses a second sash i, that aucoorte the name of a section of the two trees and the medical rade on e; at i is the section of the two interestiate raths with the strie.

The lower bands are delicately oceaned to the orbitle?, its secondary medicare of that oregins only having the thickness at.

The art of joinery in the 17 th century reached a deriention in execution never attained since. The taste then dominant in architecture further lent itself to force that suited joinery, since the sorts in stone had the defect of recalities the felicate combleations given by the use of sool. The joiners of the if the century engloyed only sools perfectly ourified.

when left open. One still sees at the entrance of the north chapels of the church of Semur-en-Auxois one of those doors executed with perfect taste (15). This door is composed of two leaves, each folding in two parts. At A we fresent the e exterior of a leaf and at B the interior. The horizontal section C is made at the level D of the section E at the level 1. The division is indicated at 6 and the strike of the two leaves at H. At I is traced the vertical section of the upper rail and of the entermediate rail. At K is the section a b at full size. This pretty joinesy still retains its ironwork, w shioh is very finely executed (Art. Serrarerrie). all this o opens easily and is agreeable to the hand; it is indeed joinery of an apartment, light and elegant, solid and made for d daily use. However, nothing is more simple than its construction, as shown by our Fig. Here the mouldings enclosing the namels are returned without stops, but are not mitred, the square returns of these mouldings being out across the grain of the muntins. The projecting strikes of the middle of the divisions are pluned on the muntins like the mouldings 5. There are neither nails nor screws; the iron fixtures alone are held by means of clips very skilfully arranged to weaken neither these fixtures nor the wood.

Inside the sashes of windows were placed in the apartments solid or open shutters, that were actual leaves. The openings of these shutters were sometimes made in their lower portion to allow one to look outside without opening the shutters.

Fig. 16 represents one of these shutters 1 made solid and made of great thickness; the principal frame A (See section B made on a b) encloses a second sash C, that supports the panels D. At E we have drawn the section made on e; at F is the section of the two intermediate rails with the stilled. The lower panels are delicately opened to the profile E, the secondary members of that opening only having the thickness his work 1.p.370. From a house at Abbertile, Whe du moultn-du-Rot.

The art of joinery in the 15 th century reached a perfection in execution never attained since. The taste then dominant
in architecture further lent itself to forms that suited joinery, since the works in stone had the defect of recalling the
delicate combinations given by the use of wood. The joiners
of the 15 th century employed only woods perfectly purified,

dry and spend, and they worked with skill, that we have dreat difficulty to attain today, even when we issize to pay for the sorknessio. For fourery of the second nelf of the interview of the second nelf of the excellent selection and dryless of the soots exployed, this doinary is well preserved, is neither afformed nor oracked, and is only intert shere placed in conditions entirely enfivorable.

To close our study of doors, and leaves of doors, we shall give ners one of those, that closes the orinoteal entrance of the ners of votre have of Resarc. The construction of teese leaves (17) is simple and it consists of .0 cansla tondered in cetween the stiles and rails; a wicket is composed of four possels a and orese at the middle of the leaf. Two attles, two top and notion rails, three intermediate martins with four intermediate rails form the frame of that leaf. The stiles we rainforced by outtresses and intermidate rails by projective rails and considered are delicately and leaf and carved in besitiful car socks.

Ta dive (15) ance details of tale work of jousery, i.e., the the essection and fine o and renal ent to frag the o lengo fecand of A 34 select exertage of the selface and selface -movince eas it is a considerable east of colore eng tal section of a stile with its buttress, at 0 the section at a larger scale of the mouldings out in the thickness of the n capele. This mode of orderential the busels by co-carteeits avefore to vascers end boilestation for aperacial line of the was much in votes in the 1% th contary, and it was necessary or these named to be very easily and rapid very not they are found everywhere. The working nothers fashioned these sorie by means of long enisels, course and pravers, with hen--cres nesto & stuck seems of a negera ent ve tesecitor self To eradam ve less aloos and said neces to stom a mi basent wooden stock it soein end , stand died at tesu sev , seeds nefcom to their a house of these ed to later then they enter the sores as oracileed today."

Fote 1.5.273. We have frequently neen altistures of asnuscating so to to the control of the central so represent a test of the charch of montrols of the charch of montrols of representing a joiner corpins of little panistic of the charch of the panistic of the till representing of the till the panistic of the till representing the till representation the till re

dry and sound, and they worked with skill, that we have great difficulty to attain today, even when we desire to pay for the workmanship. The joinery of the second half of the 15 th century is no very rare in France, and due to the excellent selection and dryness of the woods employed, this joinery is well preserved, is neither deformed nor cracked, and is only injured where placed in conditions entirely unfavorable.

To close our study of doors, and leaves of doors, we shall give here one of those, that closes the principal entrance of the nave of Notre hame of Beaune. The construction of these leaves (17) is simple and it consists of 20 panels tongued in between the stiles and rails; a wicket is composed of four p panels a and opens at the middle of the leaf. Two stiles, two top and bottom rails, three intermediate muntins with four i intermediate rails form the frame of that leaf. The stiles are reinforced by buttresses and intermideate rails by projecting mouldings. These buttresses and the panels are delicately moulded and carved in beautiful oak sood.

We give (18) some details of this work of joinery, i.e., the panel b and part of the lower one c wit the buttresses and stiles and profiles of the in ermediate rails. At A is traced the section of these details made on e f; at B is the horizon tal section of a stile with its buttress, at C the section at a larger scale of the mouldings out in the thickness of the p panels. This mode of ornamenting the panels by compartments on to half thickness and representing the tracery of mindows was much in vogue in the 15 th century, and it was necessary for these panels to be very easily and rapidly carved, for t they are found everywhere. The working joiners fashioned these works by means of long chisels, gouges and gravers, with handles indicated by the sketch G. The great gouge g often terminated in a sort of spoon like the tools used by makers of w wooden shoes, was used in both hands, the piece of wood wrousht being kent horizontal on the bench by means of a clamp or sorew as practised today.1

Note 1.p.373. We have frequently seen miniatures of manuscripts of the 15 th century in which these tools are represented. There exists in the stalls of the church of Montreals a relief representing a joiner carving a little pinnacle by means of the two represented at 1, which he holds in his right

tons. At the easte take that spreame to be st least a ten. t long. As the street, it was in Prepart use, as in run is a.

All the Labels of these is ives of the doors of the endron of seadow are of varies reside, accelines thatead of these cost, artheats of tracery sees parvet reliefs it arabeans arout the ead of the 1 th destaries. Arous the beautiful exircles of leaves, we should not onto traces of the doors of rearba 3. saciou of fourn, attributed to lear fourn, and if not by air, at least they crasent one of the cest erarales of the joinery of the fersiesance.

.sedaar .sache() .p.....

"e exclained in inticle Manetre now furing the Corenasive period the openiods of Aindows were not often alosed, except by southers at nidet, and now to obtain hight in the interiors of rocks, air was allosed to enter wit the lifet into the anarhments. These statters at first were played by anall openings over which was atteined a first were played by anall openings over alone was atteined of another of the Castre and Coute of France; but in each the peoples of the Castre and Coute of France; but in external lifet compelled the inparticular of cities and castles to make actual assess suited to receive a large surface of alls or perceived. In the 12 to receive a large surface of the (to apply to there came sunctioned by class seemes or winder (to apply to their the came sunctioned by class seemes or winder and y social anatters composed of others and rade, but still only social anatters composed of others and rade, but shows whose woodes passed were replayed by diagrand runtiled valles.

If tongs socks of joinery exist very few resains. Set at Februs in the sock of the state of the series in the states of the fearing tests and the tests of the satisfied of the states of the states of the satisfied of the states of the states of the satisfied of the satisfied the satisfied of the sock of the satisfied of the sat

hand. At the scale this tool appears to be at least 20 ins. I long. As for the chisel, it was in frequent use, as in our days.

All the panels of these leaves of the doors of the church of geaune are of varied design; sometimes instead of these compartments of tracery were carved reliefs or arabesques about the end of the 15 th and the beginning of the 16 th centuries. A among the beautiful examples of leaves, we should not omit t those of the doors of church S. maclou of Rouen, attributed to Jean Goujon, and if not by him, at least they present one of the best examples of the joinery of the Renaissance.

CROISEES. Windows. Sashes.

We explained in Article Fenetre how during the Romanesque period the openings of windows were not often closed, except by shutters at night, and how to obtain light in the interiors of rooms, air was allowed to enter wit the light into the apartments. These shutters at first were pierced by small openings over which was stretched parchment or canvas, or even a covered by a piece of glass. That custom was long retained a among the peoples of the Centre and South of France; but in the North the rigor of the climate and the insufficiency of external light compelled the inhabitants of cities and casties to make actual sashes suited to receive a large surface of glass or parchment. In the 12 th century these sashes or windows (to apply to them the name sanctioned by custom), were still only actual shutters composed of stiles and rails, but whose wooden panels were replaced by glass or by oiled vellum.

of these works of joinery exist very few remains. Yet at P baris in the tower called Bichat's, the old commandery of the Templars, and that was destroyed nine years since, there still existed in a window of the highest story, composed of two parts separated by a multion, two window leaves that appeared to belong to the epoch of the construction of that tower (about 1160). Set in an enclosure of plaster already old, they were able to escape destruction, and although entirely rotten, they still retained fragments of white glass set in rebates. Fig. 19 gives the inner surface of one of those window leaves with its ironwork. At A we give the section on a b, and at B the horizontal section on c d. This sort of glazed asshes allowed little light to enter, relatively to their areas; but then men did not require much light in interiors, as they do

today. These sames were without frames and sant isto renates in the stone openiors.

is tag to the contary sen sere already no londer satisfied s with such andl occoings, windows became aith and wide, their rullions were distributed to thickness, and constituted by the w of resident shirt and wolfe of ruschil shar even senses wohning I co said and to vience; edd or sames and ables and indee londer erist erect in fragients, and it is necessary to cole ledt made statisted date to be able to restore an entire saeb. t and hi have earn assessed and the series of and to entitle ent -re a ni Jura ilije nevere estrice of to estat ent come! est number of buildings, At the date of hade, at foucy (cedas fi le bas a secessore? Se . (vasses es fi est le tarnar -ent To contact and Is . Totale-absent as . Totale of total tic new ar assert and to action and bouses at he and bo soit fereit and to mosaison and entrajet of vase at ji . according sasass, their fastenings and thirtness. then by secking site some name, one also finds here teams, a of tens foinary, repaired many times, it is true. Toke to the worsy boilding of -weesel-Landon, so have found a window sicost entire by seakind cortain orimities frequents and years sides, among requi-.seases bea

de dive the contract of theme produces. Post of were double in the drist windows and were separated by a mai-e ario cwl sand' . "lasdi night a to test to the color to god entered syst set in the stone, as one can still mee to the e -n? se ancinion and to each only to excise and to excise eirs, and went other nanitations of the 1: to centery, fass ofecer a ofer June - swinds and ractified at Jas saw does and haves spice can ve bise saw for sellin and le certife and de by a magni area of a m medla (Art. "arrarerie). The Loc med -sear baths are tenoors and day of the tenoor state alies meriate wirth was fired to the too and potter tails, and in ina C alier statements and a ranto cut beviacer only but to lighter organizes. Ittle columns " took the clade at tacivore spea size the anthrea subscribe and of .e.c. ease arth pecates ? (see detail ?) intended to receive the class capels. is for the sain ones they nin so recates but iron butcoss I, that teres to nois the canels. need winter casts

today. These sashes were without frames and shut into rebates in the stone openings.

In the 13 th century men were already no longer satisfied w with such small openings, windows became high and wide, their nullions were diminished in thickness, and consequently the w window sashes were made lighter to allow the light better to enter the halls. The sashes in the joinery of the time no 1 longer exist except in fragments, and it is necessary to collect much scattered data to be able to restore an entire sash. The fixing of the fixtures and the rebates preserved in the j jambs, the traces of the strikes however still exist in a great number of buildings. At the gate of Laon, at Coucy (beginning of the 13 th century), at Carcassonne (end of 13 th century), at lockes, at Chateau-chinon, at the palace of Justice of Paris, and in several castles and houses in our old provinces, it is easy to determine the position of the glazed sashes, their fastenings and thickness. Then by seeking with some care, one also finds here these remains of this joinery, repaired many times, it is true. Thus in the abbey building of Chateau-Landon, we have found a window almost entire by seeking certain primitive fragments some years since, among repaired sashes.

We give (20) the result of these researches. These sashes were double in the great windows and were separated by a mullion: they were composed of a muntin A B with iron pins at the top and bottom, fixed to the cuntin itself. These two pins e entered eyes set in the stone, as one can still see in the e interiors of the windows of the house of the Musicians at Rheims, and many other habitations of the 13 th century. Thus the sash was set in building; the strike c shut into a rebate on the mullion of the window and was held by two bolts moved by a round iron rod with handle (Art. Serrurerie). Two top and bottom rails were tenoned into the two muntins. A third intermediate muntin was fixed in the top and bottom rails, and in its turn received two other strong intermediate rails D and two lighter cross-bars E. Little columns F took the place of sash bars. On the outside the muntins and rails were provided with rebates G (see detail H) intended to receive the glass panels. As for the sash bars they had no rebates but iron buttons I, that served to hold the panels. These window sashes

-ce. Issuovinos one: challent intivit mais control essait eggs tion W) and separated in three parts a b c. so as to be atio so once as sessed food only one division, or one baird or two corres of a division. December of the jamb of the mindow, thus ones for withe fully ser of vice thiver the bedruit agassuge erranted a indicated by the follow it area is infolded, these and the sol workers of the side of the sindow the date. .. and toeth siving under were places on for inside to the unter a Ideal and of ColorCore sees are the and it rices once inc in the levelor when the shutbers warm closed, and to allow one to took eathing through the ideer openieds. The aunties of the seen are ? ions think those of the nacture of a to ans. of H are even the division of the little column and -iberragni and to norrows and al W Ja ; "H Ja se office orray -1ev sad C du il ered-esono sad lo acidosa sad V da enidada sda tical section of the rails of the shutters, and at 0 the norrental section of their strikes. P is the detail of the lower openings. The shetters were fixed on the marks of the sash by hinges riveted outside on little iron plates. This seek did not have a water drip; the reieneter test flowed down their end ni vuo medane elabiti a ui bercelloo esa ecelmaa langeixe - clo leading onteide. Finally, the statters were rect of lemaini edi no berit aslosia anteine afed to seem yd bez projection of the chone mullion, and at need by burn.

To set these sashes, there was no holes or factanines to make afterwards in cancile, repator or splays; the article cannot it to its place complete and finished in the workstop, without its beind necessary as now practiced in our structures, to send successively workston of two or three trafes to finish the satting of the ironverk of a winfow. The mesonry, caroentry, joinary and ironverk, were finished similteneously, and when the roofs were covered, there was nothing more than to caint and to sand the tapestries. When the window sashes did not swing on oins like these, was they were set afterwards, the hinges that held them were fixed in the beats of the overtex dering the construction, so as to avoid outs and holes for fixing, that injure the fronts of our houses and palaces.

Window sashes of houses of the 14 th century were often sincler than these and were only composed of muntins, strikes and rails. The sash bars were assless when were employed glass p

were fitted inside with divided shutters (see horizontal section K) and separated in three parts a b c. so as to be able to open as seemed good only one division, or one third or two thirds of a division. because of the jamb of the window, those shutters divided at g moving only to the right angle and were arranged a indicated by the dotted lines 1. Unfolded, these shutters presented at the side of the window the Rig. L. and their divided hinges were placed on the inside g. The upper a and lower panels of the shutters were perforated to give light in the interior when the shutters were closed, and to allow one to look outside through the lower openings. The auntins of the sash are 2 ins. thick, those of the shutters being 1 1/2 ins. at H are given the details of the little column and their profile as at H': at M is the section of the intermediate munting at N the section of the cross-bars E: at 0 the vertical section of the rails of the shutters, and at O' the horizontal section of their strikes. P is the detail of the lower openings. The shutters were fixed in the muntin of the sash by hinges riveted outside on little iron plates. This sash did not have a water drip; the rainwater that flowed down their external surface was collected in a little gutter cut in the sill and leading outside. Binally, the shutters were kept olesed by means of bolts entering staples fixed on the internal projection of the stone mullion, and at need by bars.

make afterwards in panels, rebates or splays; the article came to its place complete and finished in the marketap, without its being necessary as now practised in our structures, to send successively workmen of two or three trades to finish to the setting of the ironwork of a window. The masonry, carpentry, joinery and ironwork, were finished similtaneously, and when the roofs were covered, there was nothing more than to paint and to hang the tapestries. When the window sashes did not swing on pins like these, when they were set afterwards, the hinges that held them were fixed in the beds of the courses during the construction, so as to avoid outs and holes for fixing, that injure the fronts of our houses and palaces.

Window sashes of houses of the 14 th century were often simpler than these and were only composed of muntins, strikes and rails. The sash bars were useless when were employed glass p

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 panels set in lead, and they commenced to appear in the sashes. when were substituted for panels set in leads, glass out in quite large pieces from the circular sheets of glass with a knot at the centre. (Art. Vitrail). The window sashes of the middle ages them do not present the network of sash bars shown by the sashes of the 17 th century, and that produces such a displeasing effect by the monotony of those equal components cutting the area of the opening into a quantity of little parallellograms. The glass panels were fixed in the rebates of the sashes by means of a cement covered by a strip of parchment attached to tha cement, or simply for interiors where it was not important to obtain perfect tightness, by buttons of the sort reproduced above at I. Then between the panels, the buttons being opened, a strip of felt was introduced at the junction of these panels, the strip being out at each button; them these we e closed and exerted a pressure on this felt. and prevented the glass from shaking. That custom was long retained in the provinces of the Centre, since we have still seen these felts and buttons fixed on sashes of the 16 th o

Window sashes of the 15 th century in mansions and castles sometimes formed a tolerably complicated work of carpentry. Mansion de la Tremoille at Paris still possesses in the story over the portico looking on the count, window sashes, very dilapidated and belonging to the original construction, dating from the end of the 15 th century. These sashes (21) are in windows composed of the cantral mullion and transom bar of stone. They consist then of four compartments; two large oblong below and two square ones. At A we give one of the lower sashes and at B one of the sashes set above the bar.

These sashes had frames fixed in the stone rebates by clips as still practised today. The lower sashes could be opened in their entire height from a to be by means of handles, and partially by an inside sash from c to d. The upper sashes also opened by handles. At C is traced the section on e f, the sashes A B being viewed from the inside. At D is indicated the lower angle of the sash A with the water drips on the cutside.

We have drawn at a double scale, i.e., at 1: 10, at A' the section on g h; at F the section on i k; at G the section on l m; at H the section on m n, and at I the section on o p. At

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L is given the section on r s and at M the section on t w. Op Open leaves of shutters in V X Y folding in pairs are indicated at u, hung on the frame, and allow the glass to be covered inside.

These sashes in good oak wood were drawn and made with great care; these glass like ours were set in rebates and comented. Fig. 22 gives the junction of the lower water drip A and the vertical frame B. One sees at B how the water drip of the great opening sash is partly housed into the frame having a drip. This gives the profile A of that drip; this profile was drawn so as to present rain driven by the wind from following the slope a b and ascending into the joint o. The curve d b compels the drop of water, driven by the wind over this moulding, to follow the curve de, i.e., to fall outside again. These details show with what attention the joiners of that epoch m made their drawings, and how they gave to mouldings a form an suitable for their places and purposes. It must be recognized that since that time we have not made sensible progress in the art of joinery and building.

Window sashes were not ironed then by means of inlaid iron angles as they now are; the irons of the handles that sometimes form angles were fixed on the wood by means of nails and rivets (but not sunk); it was their necessary that the connections of these sashes should be very well made to avoid deformation and distocation. Sunken angles are a good thing, but the Goiners mistrusted them too much to maintain the connections, then they singularly contributed on the exterior to hasten the decay of the wood at these connections.

VOUSSURES, PLAFONDS, TAMBOURS.

Curved Surfaces, Zeilings, Partitions.

As we have already stated, the joiners of the middle ages knew how to treat wood and to keep their drawings within ordinary dimensions, that were then nearly the same as those produced today by the mills. Particularly in large joinery the attention is found to be devoted to this important part of t their art. The plank 1.5 to 1.6 ins. thick was generally employed for the framework, then that 3.2 ins. thick for the heaviest parts. As for the panels, they were rarely over 3/4 in. With these dimensions of the wood they composed their most i important joinery, such as drums, organ fronts, stalls, clock

cases, stairs, large drilles, esc. To dire strength to tower woods when they and drest dimensions in noight and trevent test from blockling, they towined the titlers as indicated at a, for example, and as a play then in the timbers at buse and can as seen at 5 and . Fariner the parties approached and maintained by Greates Towarsts O foreing secres. The avades were filled by free capels :, or as earlied by towarst (Art. Relie).

Village of a dreat clock case of the 1 th century in joinary. It is an actual case clock case of the 1 th century in joinary. It is an actual casestie that such cases in creat incortance. Instead act atill seen such clock cases in creat intervals and of the 10 th conturns in the conturns in the conturns in the conturns of the cases of causes and of their act in conturns in the conturns of village of canonic, plant.

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In the 17 th contary and over also to the 16 th, joinary of ceilings instead of participatins in the carpentrs, as in the propositing example, were fastened to that by pendent keys. The 26 above one of those ceilings, siternately composed of corpsis and coffers. The sketch A indicates it northoughly projection the eyetem of framework, consisting of a series of coulistateral triangles. The kindupsts that anion are estembled the project of the ceiling of the structure of the front the doubles.

cases, stairs, large grilles, etc. To give strength to these woods when they had great dimensions incheight and prevent them from buckling, they tongued the timbers as indicated at A, for example, and assembled them in the timbers at base and cap as seen at B and C. Further the muntins were connected and maintained by gussets D forming arches. The spaces were filled by free panels E, or assembled by tongues (Art. Stalle).

Villars of Honnecourt 1 has preserved for us a curious drawing of a great clock case of the 13 th century in joinery. It is an actual campanile that must have great importance. There are still seen such clock cases in great joinery of the 14 th and 15 th centuries in the cathedrals of Beauvais and of Rheims. 2

Note 1.p.382. See Album of Villors of Honnecourt, Pl.XI.

Note 2.p.882. See gathaband, Architecture du Ve eu XVII stecle.

Although there remain only a small number of fragments of the wooden wainsoot, that frequently covered the walls of castles during the 13 th and 14 th centuries, yet one can prove its use by numerous fastenings and traces that still exist on the surfaces of those walls; fastenings and traces indicating works of great joinery covering entire rooms from floor to ceiling, and composed of members 1.6 ins. thick by 3.M ins. wide with panels. Seilings of joinery were made thus from the 14 th century and perhaps before that epoch, or to be more correct, ceilings in the composition of which carpentry and joinery took their parts. Thus it is not rare to still find ceilings where the spaces between the beams, instead of being plastered, consisted of boards placed crosswise, perforated and covered by a board placed lengthwise (24). 1 But in Article Plafond we shall have occasion to describe the different mixed combinations adopted by the carpenters and joiners of the middle ages.

Note 1.p. 384. From a house of Gordes.

In the 15 th century and even also in the 16 th, joinery cocilings instead of participating in the carpentry, as in the preceding example, were fastened to that by pendant keys. Fig. 25 shows one of those ceilings, alternately composed of corbels and coffers. The sketch A indicates in horizontal projection the system of framework, consisting of a series of equilibrateral triangles. The kingposts B into which are assembled the pieces p releived by struts and suspended from the doubled

poseta inticated at T is the section C by wears of reval and cortises. Ins section C is made on a c and test of the cortises.

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Fote 1.p. 275. Topof. Le lo Pronce. Imp. Plorory.

the trade of joiners resulted so estendance in short easor if .cops elbrir ent to samin Jaal and ni varacces evitging -ass solvenes of the ed "i sail the converse to sail -enicy to exact and to seem the energy to farbentee and to eli ry in the 1. to and 1. to anthries. " evention devalue ranici coo essente sono con son tent for ereo estrafan except by dains in it has the money necessary, particulariy the bian. Then it is a in a so a formar and any vine to tentoo a even or served room a not take act if the asolot coard of a pulcie, of a falle or a partitude to sace the left les cares so of the beach, and che had respond the very leveral three all chapter the province colorer of the of the ero to general version asserts second on tentales v year en iset necessor town the heren one even seizurnee go vers averagien. Pearles enture enture active? .nsfor seve ener equiped and left is and a left is all of the appearance nefore bringing it to the workyard.

Variate the joinery varie of believes; it am scarcely applicate to jecorate the joinery varie of believes; it am scarcely as scarcely applicated to farmiture; also that solvetry am very rare officers if the sectory. The rustor of varietis with a solvet to joiner to joine distributed to the forms of joinery, and also also also be applied to the forms of joinery, and also

joists indicated at E in the section C by means of keys P and mortises. The section G is made on a b and that at H on e f, and they explain the arrangement of the corbels and coffers. The strute forming the corbels were covered by thin boards between them, and ornaments were carved on the edges of the ribs. The coffers were raised more or less and decorated. This system was adopted again, but with some variations, in certain ceiligns preserved to us by engravings, or that still exist, such as those of the palaces of justice of Rouen and of faris. The old Ghambre des Comptes, burned during the last (18 th) century, possessed a very beautiful example of this kind, that has served us in making the drawing of Fig. 25:

it had been established under the reign of jouis XII, and bestides the sculptures was entirely decorated by painting and eilding.

Note 1.p.385. Topof. de la France. Imp. Library.

The trade of joinery required an extensive knowledge of descriptive geometry in the last times of the middle ages. It is sasy to convince one's self then, if he will examine the stalis of the cathedral of Amiens and most of the works of joinsry in the 1. th and 16 th centuries. The execution demanded infinite care and time, for one camnot execute good joinery except by using in it the time and money necessary, particularly the time. When it required 15 days for a good journeyman joiner and 15 more days for a wood carver to make a corner po post of a pulpit, of a grille or a partition, one was certain that this post, turned so often on the bench, selected and reduced, was very dry and that all changes had occurred before setting: so those delicate joinery works of the 14 th and 15 th centuries have not moved and have remained just as they w were assembled. Besides those artizans chose their wood with extreme care, and left it for a long time in the storehouse before bringing it to the workyard.

MARQUETERIE. Warquetry. Inlaid Work.

Marquetry was not employed during the middle ages in France to decorated the joinery works of buildings; it was scarcely applied to furniture; also this marquetry was very rare before the 16 th century. The custom of veneering with woods of different tints in order to compose colored designs, that could not be applied to the forms of Gothic joinery, which alw-

always normed on the original and dides, but their solding and arras in convery to be desired and dides, but their observation was such, that it is possible to vapeer them, as an according examples and. In the contrary in the cook its class in the contrary from the 14 th century; we wish as we have stated, the forms diver to that lonery are always in accord with the construction. In the matter of the states of Trench ranguetry, we only know of the backs of the states of the century of the century. One can still section of the century of the cambon of the inner-

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always depended on the carpentry. Architects caused their delicate works in joinery to be painted and gilded, but their c construction was such, that it is possible to veneer them, as the preceding examples show. On the contrary in Italy, marquetry took its place in the joinery from the 14 th century; but also as we have stated, the forms given to that joinery are always in accord wit the construction. In the matter of the works of French marquetry, we only know of the backs of the stalls of the chapel of the chateau of gaillon, and those are works of the beginning of the 16 th century. One can still see certain parts of the winter choir of the canons of the imperial church of S. Denis.

MEUTRIERE. Slot for Archers.

We have seen elsewhere how permanent Roman fortifications were only defended from their tops. The curtains and towers. were solid at the base and opposed to attacks only the thickness of their construction; but when movable casting machines were perfected, and had acquired a longer and surer range, m men no longer restricted themselves to crownink the parapets with battlements for preventing the approach to a strong place: openings were pierced at the base of the curtains and in the different stories of the towers. Those openings appeared in fortifications from the beginning of the 12 th century: then quite rare, they multiplied during the 12 th century, and participated in the means of defense; about the middle of the 14 th century, those openings again became gradually rarer in t the lower parts of the defenses and multiplied at their summits: they only reappeared at the moment when artillery replacad the ancient machines for defense. These slots for archers. pierced at the level of the ground inside the ramparts and of the floors of the towers, not only permitted shooting crossbow bolts and arrows, but also to see without discovery the works that the assailants could attempt to batter or sap the works. Among the oldest slots mentioned, we shall cite those of the towers and curtains of the castle of the city of garcassonne, a castle whose construction dates at the beginning of the 12 th century. These slots (1) consist inside of a sort of niche covered by a segmental vault intended to receive at least one defender. The wall is reduced to a thickness of 2.3

ft. by the construction of the nicke, and is discord by an observant suisved noute and vary oserus on the exterior. He can to cover the exterior by an abole of 25°. A linted with a senticipated out in it covers that occasion, and a very steep close the carringtes its is set out. The sketch A dives the class of this slot, a set as attended on the income to the shall is in the lower cart of the slot, seach is only intuitie, is cut as indicated in the face of the section.

Role 1. L. 286. Sela. 14. Alterture allitaire, Tensou.

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opening splayed inside and very narrow on the exterior, so as to cover the exterior by an angle of 35°. A lintel with a senicircle cut in it covers that opening, and a very steep slope terminates its lower part. The sketch A gives the plan of this slot, B is its section on a b, D is its inside elevation, and P is its external appearance. To give more range to the angle of fire, the lower part of the slot, which is only 2.4 ins. wide, is cut as indicated in the detail C; d being the plan, e the outer face of the section.

Note 1.p.386. Arts. Architecture gilitaine, Oreneau.

The method that served for drawing this bottom opening of the slot is this (2): A B being the internal opening of the slot: O D the opening desired to be given at the bottom, taking the points a b at a distance of 1.2 ins. from those points a b areadramathe two lines a D. b C. Those notches were originally triangular' about the middle of the 13 th century they become square, as we shall show them at once. These slots are pierced alternately in the towers, i.e., they are not placed over each other, but solids over voids, so as to cover all points of the circumference. It was only in the 13 th century that men recognized in piercing the slots the use of a constant method, a very skilfully calculated mode of tracing. At that epoch slots exactly flanked the curtains at their bas es and summits, so as to enfilade the entire surface from one tower to the next. Here is the drawing of a tower with three stories and the battlement story, like the most of those that flank the internal enclosure of the city of Carcassonno on th the southern side.

Above the footings or slope this tower with diameter of 19.7 ft. and walls of 3.9 to 7.2 ft. around the circumference A B is traced the circular arc C D; dividing this arc into 16 equal parts, o e, e f, f g, g h, etc., taking on the outside of the tower the points p at 1.0 ft. from the face of the curtain, the external surface of this tower is divided inthe 8 equal parts. Then from the points e, g, i, k etc., are drawn lines passing through the division points of the circumference of the tower. These lines gave the openings of the slots pierced in the three stories; the slots a belonging to the ground story, b to the second and c to the third; the slots flanking

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the curtains being thus doubled in height. Then all points of the circular arc C D arm seen, and beyond the arrows cross e each other. Let us add the upper defensive galleries to these slots to command the foot of the tower (Art. Heard), and this work is entirely defended, the curtains are enfilleded by these slots on each flank, two over each other in the ground and t third stories, and the third a little in front.

The slots of works of small dimensions have no internal niches! they are only proper in a wide splay. We reproduce (4) one of these. A gives their plan, B their section on the axis and C their internal elevation. The lower end of the slot is widened to extend the range of fire by means of a square notch, whose detail is sketched at D (external elevation) and at E (section). At F we have given an internal perspective view of this sort of slot, adopted from 1250 to about 1350.

In important works of the city of carcassonne, the slots to that pierce the towers and ourtains built under Philip the B Bold possess niches quite similar to those of the castles of the 12 th century. But then the walls are thicker, these niches are surmounted by round arches, and their walls are furnished with stone benches. Here (5) is one of the slots of the tower called de Tresau. At A we give the plan; at B the section on the axis, at C the internal elevation, and at D an internal perspective view. These dimensions seem to have been regulated, for they are similar in all works of the same epoch. The inclination of fire and consequently the length of the slot with regard to the external ground, these inclinations being all directed to the same circumference at a given distance from the fcot of the tower, as indicated in Fig. 3.

Some archaeologists have claimed that these slots, pierced in the different stories of the towers and at the base of the curtains, were rather made to permit one under cover to see what passed outside, than for defense. It is certain that these long slots facilitated the oversight of the exterior, but it is impossible to admit that they did not serve for defense. The lower opening above that widens the angle of fire demonstrates their function. We have attempted to shoot through these slots, not with a crossbow, which is as easy as with a musket, but with a bow: the sides of the slot, instead of in-

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injuring the fire, fulfil the office of a mirror end on the contrary make it more certain, than if one saw the object in the open arr. Further, the texts of the 12 th and 13 th centuries frequently mention these slots for casting, shooting a and defending. One will note, that when the walls have a great thickness as in the preceding example, the constructors have always made those wide niches, which allow the archer to approach the external surface, which diminishes by so much the depth of the splay.

Yet there exist very strong defenses from the beginning of the 13 th century, whose quite rare slots were made rather f for watching the exterior than to offer a means of defense. A At the Laon gate of the city of Goncy, whose construction dates from about 1210, the two great towers are pierced by slots whose small augle of opening and extreme depth, could only give a view of one point, also light and air in the interior of the halls. Here (6) in one of those slots.

At A we have traced the plan; at B the section, at C the internal elevation. Here the constructor feared to weaken the walls by deep miches, and has given to the splays of the slot only a very small angle of opening. The slots are not widened at bottom and extend the range of fire, and although these alsots are ver high above the ditch, their inclination is not great. This sert of slots can then be regarded only as outlooks on the exterior and inlets for light and air. The niches have no benches, which is again an indication of their use not for defense, for everywhere that a sentinel or a defender is placed inside towers and buildings, there is found the stone bench. The projection D supports the floor.

We have stated that about the end of the 14 th century, men renounced slots pierced in the lower stories of towers and courtains. Indeed at that epoch the art of the miner was quite perfected, and that these long slots indicated externally the weak points of the structure. By digging a mine between two of these slots, one would be almost certain to cause a part of the wall to fall. The advantage derived then from piercing the lower slots did not compensate for the dangers that they presented for the besieged. Then were established permanent defensive galleries or machinolations at the tops of towers and curtains, with battlements and slots pierced at the middle

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of the merions. The lower construction remained entirely solid with slopes, thick and homogeneous, and consequently much more suitable to resist sap or mining.

Then the slots are only found at the tops of the defenses or at certain points where sentinels were placed, for example over the gates and beside them, in passager, at both sides of the portcullis, etc. From the middle of the 14 th century the slots on the exterior only consist of a simple opening or with a bottom notch, the slot is often enlarged at its middle by a hole forming a sort of cross, as indicated in Fig. 7.

Note 1.p.393. From the remports of Apienon.

Naturally, the shooting arms imposed the form of these slots. From the 15 th to the middle of the 14 th century in France,\* only the crossbox was employed as a hand arm for shooting. N Now the crossbow is an excellent arm for direct shooting; it has the qualities of the musket, except its range. Archers were little employed by the feudal armies of the royal domain. On the contrary in the North, in Flanders and England, they formed considerable bodies and had acquired, as we have experienced too much at Greey, a marked superiority over the crossbow men. because of the rapidity of shooting with the bow and the extraordinary range of the arrows. but in battle these archers shot in the air rather than point blank, and for whoever has practised shooting with the bow, it is easy to appreciate the effects of shooting in the air. After describing a marabola, when the arrow falls vertically it is a terrible projectile, since one cannot protect himself from it. A moderate ly expert archer easily sends an arrow obliquely to a height of 131 to 164 ft.: reaching the end of its flight, it describes an abrupt parabola, and falling vertically from that height, it pierces a plank 1.2 ins. thick. Instead of arranging slots for shooting directly with crossbows and only from the top a downward, they are so made that archers can shoot in the air. either by an intermediate opening a (Fig. 7), or by an upper opening b. Thus (8) the crossbow men or the archer could send the arrow directly, and the archer alone could shoot the arrow B through the middle opening, or through the upper opening the arrow c. Besiegers protected by mantlets avoided the projectiles B with difficulty, but could not protect themselves from the projectiles C. The necessity of leaving the lower parts

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This port of slots is found everywhere in France from the 15 th century: their form was definitely adopted as the best. because allowing shooting direct or in the air. Artillery then came to modify anew the form of the slots. They were only composed of round holes for passing the muzzle of the musket with a sight opening above (9). Sometimes these holes are double with a horizontal slot between them. Here is one of those alots taken from the eastern gate of Angelsheim. (10). One will note that these holes are pierced in a quite thin slab set f flush with the exterior of the wall of defense and surrounded by a recess in the masonry inside. A musket ball coming from outside might well break the slab. This slot is pierced beside the gate and commands the road descending toward the village: this explains its height above the ground inside. At A the slot is presented on the exterior; at B the interior, and at C in section. But the rapid progress made by artillery in the 15 th century greatly perplexed military constructors. The They abandoned with difficulty the old system, and opposed to the effects of the new projectiles obstacles almost always insufficient. It was only at the end of the century, that the e engineers or architects arranged actual loopholes for musketry. and among these may be cited as particularly interesting, those of the bastion built before the Laon gate at Coucy. This bastion today in great part is covered by the imperial road, swept the plateau and enfiladed the ditches of the city by m a subterranear work pierced by means of loopholes and small embrasures. It must have been e erected about the last years of the 15 th century, if one refers it to the same sculptures and mouldings, that decorate

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and or sen . (if . ) or revolute vientine near . (if), nes et lus - Has and aperty and to reduce one sycon of the street as said ery covered by a count tails lend for and a dedect gre The dallerses are piece a ac divise makeness of steeling but ed so as to orose t a suspensy tire at the conton of the callon, as intiputed by the solutional lines as the day was make around a side out sit ast astifed on to remade and to call son and its verts a discred in the valle; at ) is the plan of one of these slots of the front, which are doubled in the delent or the surface. At it are also venue. We section to make on s a d on d a, and at f on t b. "nous dellertes are pierce t ons revers alone, and are evidently intended to orever the vit' of i's san ash the wine at the foot of the bastion. All -spelted at the erec seerb ofth Lebockye at scillurations and ly preserved. In orticle force we shall explain in nore detathe such six yo boisersjoi os ance sing to yillite say it

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the vaults of the subterranean story.

This bastion, whose entirety is given at A (11), has at its base at about 3.3 ft. above the bottom of the ditch, the gallery covered by a round tunnel vault 3.9 ft. wide. A chamber vaulted by pointed arches is constructed behind the salient. The galleries are pierced at close distances by slots arranged so as to cross the musketry fire at the bottom of the ditch. as indicated by the dotted lines at B. At C we have drawn the plan of the chamber of the salient with its two slots a and its vents b pierced in the vault: at D is the plan of one of these slots on the front, which are doubled in the height of the surface. At d are also vents. The section E is made on e f; at G on g h, and at H on i k. These galleries are pierced by numerous slots, and are evidently intended to prevent the work of the sap and the mine at the foot of the bastion. All this construction is executed with great care and is perfectly preserved. In Article Porte we shall explain in more detail the utility of this work, so interesting by its date and so complete.

MISERICORDE. Miserere. Edge seat.

A little corbel arranged beneath the movable seat of a stall, serving as a seat, and permitting the religious to sit on it when the seat is raised, while appearing to stand. (Art. Stalle).

MITRE. Chimney Cap.

The cap of a chimney flue intended to prevent the rain or wind from entering the flue while allowing the smoke to escape. Buring the middle ages the caps were made of terra cotta, brick or stone. Perhaps some wrought iron ones existed, but we have found none in place, although sometimes fastenings remaining at tops of chamney flues indicated the presence of an iron cap.

There still exists in the hospital of Sens a beautiful cap of glazed terra cotta, that appears ts date from the 13 th c centurw. Here (1) is a sketch of it. This cap is in form of a ridge tile and allows the smoke to escape by three vertical openings, four lateral holes and both ends. The arrangement of these exits was well made to prevent the wind from entering the flue. At A we give the horizontal projection of that

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cap, at B its cross section, and at C its side. The projections bordering the little cylinders are obtained by a stroke of the thumb in the moulding while it was still fresh and after the fixing of the cylinders on the top of the ridge tile. However at that epoch chimney floes habitually ended in cylinders am the caps then took the conical form. One of those conical caps of glazed terra cotta was still seen some years since on a h house of the 14 th century attached to the eastern gate of t the city of Semur-en-Auxois (2). At A is traced its horizontal projection and at B its elevation. Sens. Troyes. Villenenvesur-Youne, still possess some remains of those old channey caps of terra cotta. But in provinces where the stone is resistant and easily wrought, the flues almost always have caps belonging to the construction, and the capitals of those flues are actual caps. likewise in the provinces where brick was used during the middle ages, the caps are made by means of combining tiles and bricks (Art. Cheminee). The architects of the m middle ages always sought to decorate the parts of the construction relieved against the sky and to give them a pleasing outline. In vignettes of manuscripts of the 15 th century are seen chimney caps richly ornamented; but unfortunately the f fragility of these details of public and private edifices. w very exposed to storms, has caused their destruction in allour old cities.

During the period of the Renaissance very beautiful caps of glazed terra cotta and even of faience were still made. Those faience caps are composed of several round parts fitting on each other, and sometimes curiously ornamented by delicate d details in relief or painted, too small in scale indeed for the places they occupy. But then the true feeling of the external decoration of edifices was greatly changed, and those o caps of fine pottery, very pretty to see closely in a museum, produced no effect on the top of a roof.

MOELLON. Rubble.

Stones of small sizes and low in height supplied by the quarries for building walls with mortar or plaster. Rubble is pointed or rough. Pointed rubble presents a dressed surface, rusticated and that does not require to be plastered. Rough rubble has no regular form, i.e., it has neither beds nor face.

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Pointed rubble was much used in the middle ages in the construction of houses and of edifices erected at small cost, and this sort of structures are excellent, because their surfaces are perfectly connected with the internal rough masonry. In a some provinces of France and notably in Burgundy and Charelais are several large beds of linestone, hard and sompact, that splits in very thin layers of 3.9 to 7.9 ins., and regular, which thus furnish excellent pointed rubble, only requiring a very slight preliminary dressing. Thus in those provinces are seen many old monuments whose surfaces are faced with pointed rubble presenting a surface as plane as that of out atone. Between the buttresses the walls of the naves of the churches of Vezelay. Pontigny and Beaune are faced with pointed rubble admirably preserved. Transportation being them difficult. one understands why the constructors could more easily o obtain pointed rubble, which they brought on the back of an ass if necessary, than cut stone. They reserved the latter for columns, angles, fiers, buttresses, plinths, cornices and window sills.

The Romans frequently employed pointed rubble, but in pieces presenting square surfaces externally ind not rectangular. T This tradition was followed in certain provinces of France u until the 12 th century. Thus the nave of the cathedral of Tans, for example, whose construction dates in the 11 th century, presents external surfaces that have all the appearance of a Roman structure. On the banks of the Tayenne and of the Loire are seen a number of edifices of the 11 th and 12 th c centuries, that offer the same peculiarity. Beauvoisois and a part of Valois still retein numerous remains of structures of the 11 th century, that one could believe were built by Roman masons.

MONTOIR. Horseblock.

A step sufficiently high to allow mounting a horse without the aid of the stirrup. There was not a court of a castle, m mansion or inn without one or more horseblocks. They were for women and men, and the flights of steps that play such an important part in the habitations of the lords were accompanied by horseblocks. Horses and mules were prepared to go to the horseblock, i.e., were brought sufficiently near those steps

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A term of carpentry and nothery. The mostice is the cavity that receives the remain (Arres Charcenoe, Manuseum a, Trans.).

## YTRATES. MORESE.

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TOTAL CONTROL OF STATE OF STATE OF STATE OF STATE OF STATES OF STA

that the rider could easily place himself in the saddle. A horse that would not go to the block was reputed visious. One understands that for a man heavily armed the horseblock w was a necessity, and without the block the rider could scarcely bestride his horse at that epoch when armor had a very considerable weight.

There was at the Louvre of charles V a block for the king and one for the queen. We have seen one of those horseblocks (1) in the court of mansion de la Tremoille at Paris, placed beside the rear facade beside the flight of steps. This block was out in a single block of stone and consisted of three steps, the last forming a little landing.

The flight of steps at the castle of Pierrefonds was accompanied at right and left of the principal flight by two large horseblocks (Art. Perron). Before the inns was always outside a stone horseblock, and in the court were several wooden blocks, a sort of stool that was moved at need. The blocks were decorated by tapestry on days of ceremony in castles of Paris. At the ends of the lists during the tourneys were placed horseblocks for the combatants, and then to place one's self in the saddle without the aid of the block was regarded as an act of vigor.

MORTAISE. Mortise.

A term of carpentry and joinery. The mostise is the cavity that receives the tenon. (Arts. Charpente, Menuiserie, Tenon).

MORTIER. Mortar.

Composed of sand and lime. To make good mortar river sand or gravel has been recognized as the best. Whatever the quality of the sand of the plain or pit, that sand is always mixed w with a certain quantity of clay, and does not fulfil the conditions necessary for making good mortar.

During the middle ages mortars are of very different qualities, sometimes hard and compact as in Roman structures, sometimes of mediocre quality in the 9 th, 10 th and 11 th centuries. It seems that men had then lost the procedures of making lime, and it is but exceptionally that one finds in the edifices of that epoch mortars offering a certain consistency. In the 12 th century, mortars commenced to resume strength; dur-

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A MESSATURE ENGLISHED TO BEECHERS IN 18 JULY 18 MESSATE AND ALL AND AL of the rest of the fact of the same of an entire, or a second of BE DESCRIPTED AND THE SERVICE OF THE SERVICE OF THE CONTROL OF THE SERVICE OF THE selferte of thirtso of a fall and a thirteen. The transfer all the thrive out the self to self and the self of the self o and the last the confidence in the last the confidence -g'-at-all is topod and grassed to it the states to yi. levens build to correspond analysis, victic the entertaint a legger ville der avsättete at ert fra ffer ertitte en TO PURCEU, BEREAR DO & PRAPERS TO PARE OF SERVE CEVE TERROtien choose and or visitable to be no by 91 set of attribe. -oec essistana . rala esià cia afam ilca . annista era trasson parareo as I and "o bas and tooth . inshis has also have the softer decirally become very plot end or and kinds, for sames of concrete se made of mary course drawel, that of the -porce and he down sent how to about him also and him him ers trief is said that an erection of the contract of to the anial to the contracted freezendely choiced places and it incomes sery the contract of the social series of the contract of the -me has someth edu mon the charte man tonner line saw some ings asser to and peer assort, for it contains no clay. In--name been any than your than the nois to salth that for the yet anique to maken and alteria the product of the party to are argained nariouss, they have alseys cracked to the connereservance viscours a seriously coupant wass.

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during the 13 th, 14 th and 15 th centuries, excellent mortars were made.

The quality of the mortar is then one of the means furnished to architects for recognizing the date of an edifice, but it is more characteristic than other signs. Mortar employed in Romanesque monuments preceding the 12 th century is sometimes mixed with bits of tiles, especially during the 10 th century and earlier; it is lean, i.e., contains little lime, and that is badly burned. In the 11 th century are found in Ile-de-France. Champagne and Burgundy, mortars composed of fine gravel foften plains sand) and lime in quantity, but badly burned a and drowned, having no strength. The bits of tiles have disappeared. In the 12 th century, particularly in the second half. mortars are uniform, well made with fine sand, sometimes chosen with care and sifted. After the end of the 12 th century mortars generally become very good and are of two kinds. The mortar of concrete is made of very coarse gravel, that of the joints and beds with good river sand, fine and pure. The line used for the beds and joints is whiter than that of the concrete, which is much mixed with bits of charcoal. Buring the 14 th and 15 th centuries frequently employed plains sand, v very rarely coarse gravel: the mortars are frequently mixed. the lime well burned and slaked. But then the plains saud employed seems to have been washed, for it contains no clay. Only in certain parts of Picardy the clayey sand was used without washing in making mortar, and although these mortars may have acquired hardness, they have always cracked in the concrete and do not present a perfectly compact mass.

constructors have employed the lime such as could be furnished by the limestones at hand. These limes are hydraulic in provinces where the limestone possesses that quality, fat in provinces where the limestone contains very fittle clay. Consequently they were acquainted with artificial hydraulic lime. But from the end of the 12 th century their fat limes had acquired very great hardness, even in foundations, as we have recognized in the substructures of the cathedrals of Rheims, Amiens, Paris, Sens, etc.

It must be stated that at that epoch, i.e., at the beginning of the 13 th century, reasons of economy sometimes compelled constructors to use but very little lime in their mortar and

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the sand as they found it. The mortars in the construction of the cathedrals of Laon, Troyes, Chalons-sur-marne and Seez a are very bad. But we have given elsewhere the reasons, that caused those edifices to be erected with extreme economy.

(Arts. Gathedrale, Construction).

MOSAIQUE. Mosaic.

Works made of little cubes of hard stone or of glass pastes of different colors, fixed on the surfaces of monuments or on floors by means of a cement composed of lime, very fine sand. pozzolana or pounded brick. The Romans of the late time employed mosaic only for decorating floors of halls, but also for covering the walls. It is unnecessary to repeat here what has been written ou this subject. It suffices for us to state that mosaic was very frequently used in the monuments of the M Merovingian epoch in the West. Gregory of Tours speaks of the mosaics that ornamented several churches of his time. S. Pallade, bishop of Auxerre in the 6 th century caused the erection of the monastery of S. Eusebe, the apse of the church was decorated by mosaics into which gold entered for a great part. 1 Indeed mosaic work, and which was given the name of Byzantime. is composed of gold grounds obtained by means of little cubes of gilded glass pasts covered by transparent enamel. The subjects and ornaments are detached on these golden grounds. This sort of mosaic is very common in Italy. Sicily and the Orsent, but very rare in France, since we know only a single example still existing in the little church of Sermigny-les-Pres near Sully-sur-foire, au example that appears to date from the 9 th century.

Note 1.p.403. Abbe Lebeuf. Men. comc. l'hist. civ. et eccles. d'Auxerre. Volo I. p. 149.

Abbe Lebeaf, in his Histoire du diocese du Baris. 1 says that in the castle of Bicetre built by the duke of Berry, brother of Charles V, there were two small rooms "enriched by perfectly beautiful work in mosaic." It is now difficult to form an idea of what this work could have been in mosaic of the 14 th century, since we know of no other work of the kind executed in France since the 12 th century. Yet we still possess in t the storerooms of the abbey church of S. Denis the remains of a mosiac pavement with gold ground and color dating from the

and of the 1. th protory, and that cerferry recalls in man if aurespeed sing .noods sure say to someon certail say chara "List "Elfredy is oreserved by a desine by "eroter maye to series delicated the labors of the veer airroading a large crearings cornoled by fanciful animals. If the factionation e Thilian ar see eacherily France, as as a see and tedival has alon and seedled of 1, test Jeal teditor to a to possess and of estatization of secretarion ile sont essents the new papers, being it it?. Powerer, we centit five to the sari a . Ance and to continue end for the sort, a face resoluted 1100. To servetat from this aree carra of ". Cen-- order care carres that so profoundly agaded the carrosituati de redays a sacoli eits states es teins cauci en last since of class terms court (. ' to .' in space, touch to sent encia served for makent bounce or accommon procedure. The esadini on anhaos seriables estections en vociner as il has tages taltes flore roun by the mane of ones sievastring out the nard stones bear adding for them, they replaced tops he stool als ass vinerace such aston acres bereit to as -eiger edale enod tesica: To .escant taste had esoc error racyen to seems to secision nego-clien his edd to male hat the modetes see is less to medica no le seemes to beers send do not a reduce testest grev a vino detre cread of the 'los, and those preceds the contary, Statued di-JEED TOT GODET HI SOUTTION TO HULDETHOOD PATE AND ARE SEL seems, sor to fact striper clear is a sort of trepsident rosaio. (Art. Vitrail).

Note 1.9.404. Vol. X. p. 18.

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 end of the 12 th century, and that perfectly recalls in manuf acture the Italian mosaics of the same ebooh. This pavement. whose entirety is preserved by a drawing by Percier made in 1797, represented the labors of the year surrounding a large compartment ommupied by fanciful animals. If the fabrication be Italian, the design is evidently French. But it should not be forgotten that Suger, if we believe his acts, had invited artists from all countries to contribute to the erection of t the new church, begun in 1140. However, we cannot give to the cartoons, that served for the execution of the work, a data preceding 1190. In removing from this same church of S. Benis the sad excrescences that so profoundly changed its charmter, we found under the modern tile floors a number of little cubes of glassed terra cotta 0.6 to 0.8 in. square, that syidently served for making mosaics by an economical procedure. In the 12 th century we architects sometimes sought to imitate those Italian floors known by the name of opus Alexandrinum: but the hard stones being wanting for them, they replaced these by glazed terra cotta. More commonly the tile floors of t terra cotta had inlaid drawings, or incised stone slabs replaced with us the old gallo-Roman mosaics, or those of beyond the mountains. As for mosaics on walls, as we have stated, t there exist only a very limited number of them on this side of the Alps. and those precede the 12 th century. Stained glass was the true decoration of edifices in France from that epoch, and in fact stained glass is a sort of translucent mosaic. (Art. Vitrail).

Note 1.p.404. Vol. X. p. 16.

Note 2.p.404. There must be martioned here the mosaic representing the figures of the zodiac discovered in 1831 at 3. Om-Omer, that came from the toub of prince Militan, who died at Aire in 1109 (abbay of S. Bertin).

#### MOULIN. Mill.

Only occupying ourselves here with buildings containing a machine for grinding, for fulling, or for shaping metals, we have mills moved by a stream and wind mills. Water mills appear to be oldest. lambert, fortieth abbot of S. Bertin, caused to be established permanent water mills, begun under Odland in 797. Those mills according to the chronicle of the abbots

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note log. 105. See 100es de S. Berlin, etc., by M. B. De la

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Note 6.p.403. Lee Olim. Vol. I.p.62.

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of S. Bertin were the first that were established in the country. That abbot Lambert (1095 - 1123) even caused to be executed hydraulic works, that appear to have been quite important, since by means of the motor wheels of the abbey mills, he elevated the water necessary for the service of the monastery, so as to distribute it in the buildings by subterranean aqueducts. There is no mention of windmills in France before the 12 th century. Some authors claim that the invention of that sort of mills was brought from the Orient by the first crusaders; and indeed windmills were called Turkish mills in Normandy during the 14 th century. Charters of Philip August grant the right of establishing windmills and water mills, and in the romance of Ogier of Denmark, there are two mentions of water mills.

Note 1-p.405. See Abbes de S. Bertin, etc., by M. H. De La Place. Port I. 1854. p. 41, 186, 187.

Note 2.p.405. In 1195. Duconge. Gloss. (Lotte note).

Note 1.p.405. Verse 8673.

Note 5.p.405. Verse 8319.

The Glim gives decrees of parlement relating to the establishment of windmills. We shall quote one of these decrees, rendered in 1275, under Philip III.

"The monks of Royaumont complained that a windmill belonging to Pierre of Baclai had been recently erected near Baclai to their prejudice and damage, and to the injury of their mills of Gonesse; they demanded that this mill should be destroyed, when the stated that the lord king had said or ordered it by judgment. The reasons for opposing parties having been heard, the decree was pronounced, the mill must not be destroyed, so far as the monks are concerned."

Note 6.p.405. Les Olim. Vol. I.p.62.

In the 15 th century lord de Caumont, traveling at Rhodes and describing the edifices, that seemed to him remarkable in that city, expressed himself thus: - "and all along that (wall of the city) are placed 16 windmills, all in a row, that grind night and day in winter and summer. Old French). 7

Note 7.p.405. Voyage d'outremer en Jerusalem, by de Coumont. 1417. published by marquis La Grange. 1858.

On the towers of the enner enclosure of the city of Barcas-

-cr. a -. race so estimate to reme elect . sancesacha netts of "seft," and or tas old news of some of those tovers. "star illis celonetus to nations or isplated antera ere often forbitted. The earablesaming of a util could occur oily or d of white and guiantia of laces and to had eas to date; a build a mill, the lord assigned to ain an area, the can of t sany and sund profit tearporco specifican and lia . life and near seas to fine the stand around in the the co calling uter pare of sector their short, norse and cart confiscated ens to the lead to the east to recke sad to dilense end to? deligonent. Thus these tills decemb actas frets, smose presrions baddingso tad Jens Spol and of Jantoon and notherns asiarlisaceni, to toe over and to the incapitants corprised a so of challing send for these and the tast building to able to resist a sudden attack and to befoug turnestyee. "ente they were built on talands as much as possible, or inseet on a bridge easily barricaded. These salls were sayetings sirord enough to sustain a regular state, and so that their more or wheels could not be destroyed by stone-chroners or maneponels. They were there carefully protected by a masenry structure. T -size said topossore Ja etul sel co lot at beller flix . T -ore aid of .Cot of leveroes? To your sol to enough end and ellent vorv on utence militaire, i. reo Orouga elves several end of and or videom of the dear is a slite season to select -ceise east sace seed east that nit voot jest for .veotose traces in the mills area. Int cultified contribute the mechanisd is nearly disays sounce or rectangular to rian, the rotor stand permy places inside the landth of one size of the parallarran. If no hills preceding the 13 th sangary exist, the te evael nes garon eschi lo sucriarinamenten sur la lich as sirej de co injura concercial transferiation en transferiation to of the 12 to century at least. Our of the papitals of the nare of fereing spore as the escute of a mill. the men cerrying g cour to the appear. The annuaction of Partade of Lankeers, -uces from the 1. in contary liveries acons us from Jeco sacev , sabeld n'iv leant notice a colore ille nelse e le veine arie tas a cotinesi ant turns whe lover millatone. From the time of Villian the Annueror, news V. i. meliste, there can list a revol to stop and to commane end an renalitable open referre seems to end PFT n. . ends end to wolf end ye better Carcassonne, there were several windmills, as shown by a vignette of 1467, 1 and by the old names of some of those towers.2 Water mills belonging to castles or isolated abbeys were often fortified. The establishment of a mill could occur only by a grant of the lord of the manor. In granting the right to b build a mill, the lord assigned to him an area, the ban of t the mill. All the inhabitants comprised within this ban were obliged to have their grain ground in the mill of that area. uder pain of seeing their wheat, horse and cart confiscated for the benefit of the owner of the mill of the lord of the delinquent. Thus these mills became actual fiefs, whose preservation was important to the lord that had permitted their establishment, to the owner and to the inhabitants comprised within the ban; it was necessary for these buildings to be a able to resist a sudden attack and to defend themselves. Hence they were built on islands as much as possible, or indeed on a bridge easily barricaded. These mills were sometimes strong enough to sustain a regular siege, and so that their motor wheels could not be destroyed by stone-throwers or mangomels. they were then carefully protected by a masonry structure. T The hill called du Roi on the Aude at carcassonne thus resisthe the attacks of the army of Trencavel in 1240. In his excellent work on Guienne militaire. M. Leo Brouyn gives several examples of water mills, that date from mostly in the 14 th o century, and that show with what care these works were established in the middle ages. The building containing the mechanism is nearly always square or rectangular in plan, the motor wheel being placed inside the length of one side of the parallogram. If no hills preceding the 13 th century exist, the te texts as well as the representations of those works can leave as no doubts concerning their establishment from the beginning of the 12 th century at least. One of the capitals of the nave of Vezelay shows us the machine of a mill, the men carrying g grain to the hopper. The manuscript of Herrade of Landsberg. that dates from the 12 hh century. likewise shows us the mechanism of a water mill having a motor wheel with blades, whose axle has a cogwheel and turns the lower millstone. From the time of William the Songueror, says M. L. Belisle, 4 there had been established at the entrance of the port of Dover a millmoved by the flow of the tide. "In 1235 one of these existed

st Vaulan. In the 'd to century the architector of Piden possed at hieres two tite mills." In 1777 Indic the Fold confinart to Indian the trop r the tipe tills established on the bridge of Onve near Carantan.

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Flits. Vol. I. p. 124.

Note 6.p. 106. Cortul. of Recomp.

ens sand the each the he sille reder enter of Jeike enter still in use; they are found in formadly, foursing, particularly in "vine, where tease works are almost always fortilied, ant surve established daring the Samination, the scoop ed relevant to send to the the troumoe. It welcame to -oled line terminon e he asian ess mane llist area CET eron adias to rathe know, nathr the name of the cautie of name -goes end vice need at the series to a seen only in - sec. I's tructure, constited of the thick piers with buttresses opnosed to the current of the river and crossed by turrets. the first occurses of their some visiols. Inc motor angel and gise-You ask sidescropers the traid and traid measure iscain protested. ins clad Gt ets. count oforv, asceptible by an arch "a war dor been able to cracate on antornation occeptance neigh visitated noiseurasoned end avon said to same best end from the 17 to beatury, from consideration of the starge of ine turrets.

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"The plantaners of the contary, "in 16%", says that addor.

at Veules. 6 In the 14 th century the archbishop of Rouen possed at Bieppe two tide mills." In 1277 Philip the Bold confirmed to William the Archer the tide mills established on the bridge of Ouve near Camentan.

Note 1.p.406. Inp. Lib.d Etampes. No. 7402. Feb. 40.

Note 2.p.406. Hill of the constable, will of Avar. will of
the South.

Note 3.p. 106. Library of Strasburg.

Note 4.p.406. Etudes sur la cand. de la classe agric. etc. Note 5.p.406. (Latin note). Homesday book, quoted by S. H. Ellis. Vol. I. p. 124.

Note 6.p.406. Cartul. of Recamp.

There exist in France water hills of old date and that are still in use: they are found in Normandy. Toursine, particularly in guinne, where these works are almost always fortified. and were established during the English domination, the epoch of prosperity and development for that province. At Melun before 1830 were still seen the ruins of a fortified mill belonging to ruins known under the name of the castle of queen Blanche. That mill, and where is now to be seen only the substructure, consisted of two thick piers with buttresses opposed to the current of the river and crowned by turrets, only the first courses of these were visible. The motor wheel was placed between these two piers and consequently was perfectly protected. The plan of the ground story, supported by an arch connecting the two piers, was probably only a rectangular room. We have not been able to procure any information concerning the upper part of this work. The construction certainly dated from the 13 th century, from consideration of the stumps of the turrets.

Here (1) is the plant of that mill at A and the remains of the elevation at B. We do not think that the downstream end was crowned by turrets, in fact nothing was to be feared there, the attacks coming from upstream (the mill being formerly surrounded by water). The floor of the ground story over the motor wheel was placed at the level C and at D was a wooden bridge supported on corbels, the entrance of the mill being at E. The mill of Bagas, Gironde, given by M. teo Drouyn, was built in the 14 th century, "in 1436," says that author, "120 years after its construction, it was given by Henry VI,

The of dailed, to sterr Caract, source." Inis ti na atti running Codev. Ners Ners the cian of the mil of 'seas or Padent a to becautedam orm of as the cateful on a branch of the cou. The care markering and take rece is it is "wa artica P. " dir it wet water on the aniels I. C". bonns--vol stained aductal access sacric and acci rests on mercy His and to seconder so . delsa se al . Las . sist if we take ere in one mider and lower enis by noons someted by counter stones . - and "1. One ded reach though opone only by the tulest ". or "restly by cost at the could . The story a story " Tracte some of a teach month and a south serial so teach one income and of sireces see orders enicon a V . . Com house one vigaes senot and defai and sites to Ilia and mate . . . vacas or a land to the door of the antices. Fr that viru si vyos sia" . lib 5.3 Can da Cas t fina sa gorf One room, it is been though along any contract a wrive at a dis , veeles micos a micros times of i not elicit a red tirtheir beis of the wild in sook behinder tirefor Ens do to discrete for a work of the solution is sequent. I avoid in the color of the latter of the latter and the latter of the l

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ter ourse. The content of and all taken for a course to a course the course of a course and plans of payeral other mills taken in the same province and built during the 14 th century.

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king of England, to Pierre Durant, squire." This mill is still running today. Here (2 X) is the plan of the mill of Bagas or Bagatz in the ground story, as it was established on a branch of the Prot. The dike that maintains the mill rage is at A. Two angles B. B' direct the water on two wheels C. C'. Downstream the water from the blades escapes through openings covered by lintels, and D is an islet. The entrances of the mill are at the upper and lower ends by doors covered by pointed arches (G and M). One can reach those doors only by the islet D. or directly by boat at the point H. That ground story is protected on three sides by 6 slots opening in each side of the upper end. By a wooden stairs one ascends to the second story X X. From the hill opposite the islet one comes nearly on a level to the door E by means of a drawbridge. By that door the grain is brought into the mill. This story is only one room. like the ground story, and contains a privy at F: a little dwor I formerly opened on a wooden gallery J. that probably extended along the lower end. One also ascended to t the their story XXX by a wooden stairs. That story is equipped at the four corners with turrets, one containing a stairs that ascends to the roof of the upper battlements. Four windows 1 light that room, also pierced by 7 slots and having a fireplace.

Note 1.p.408. In his book previously mentioned on Guienne militaire, p. 28. We cannot recommend too strongly the work of N. Leo Drouyn to our readers. One cannot find collected m more interesting data on the monuments of one of our beautiful provinces of France, nor rendered with more charmeand a manupulous appearance of those civil and military edifices.

Here (3) is the perspective view of this mill taken from t the point P. 1 M. Leo Drooyn, from whom we borrow these data, presents views and plans of several other mills taken in the same province and built during the 14 th century.

Note 1.p. 409. The battlements alone are now destroyed. The other parts of the structure are nearly intact.

In the cities men often profited by the arches of a bridge for establishing mills, and even then the bridges and mills, built of wood, formed but one structure. Before 1835 there s still existed at Meaux in Brie a bridge of this kind entirely of wood as well as the mills belonging to it. that entirely dated from the end of the 1; th century. At Ghalons-sur-Saons

end stode ortise communicating vita the island to endinger with fourt towers of there, vita sittle terror trues sovers at the arciver end the terror architectual will and century. I at having the terror as islanders (villerer ortis), that prises is interest orthon of the factor alove the trues as that of the same conditions as that of years.

Note 1.p.410. See chalt. orbin terro. Tollo. 2 nols. 1874.
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the stone bridge communicating with the island was equipped with round towers on piers, with mills between those towers a at the arches; that picturesque arrangement has remained till the 17 th century. At Paris the bridge au Meuniers (millers' bridge), that crosses the larger branch of the Seine below t the bridge au Change opposite the palace, was established in the same conditions as that of Meaux.

Note 1.p.410. See civit. orbis terro. Polio. 2 vols. 1574.

The view of Cholons-sur-Scone is found at the beginning of the fourth book.

We have not been able to find documents having any value concerning the form of windmills of the middle ages, or rather on the arrangement of their upper part, for they consist of a round tower for the body of the structure. Yet the vignette cited above, and that gives a view of the city of Carcassonne in 1467, indicates one of the mills on the towers of the inner enclosure; now that representation recalls the mills of o our time? a conical roof on a round tower and four wings covered by cloth. At Castelnaudry 15 years since were still to be seen some windmills of the 16 th century, that did not differ from ours.

In the 15 th century there existed windmills on the hall o called des Moulins at Paris, situated between the present palace of the Tuileries and the boulevard; and on several towers of the wall of Philip August they had been established before that epoch. The celebrated tapestry of the city hall, that d dates from the second half of the 16 th century, exhibits around the capital quite a large number of windmills on elevated points.

MOUSTIER. Monastery. (Architecture Monastique).

NAISSANGE. Springing. Impost.

The starting poin of an arch on piers. In the middle ages the architects of the Romanesque epoch always raised the springings of arches above the bands or the abacuses of capitals. When those architects had to draw an archivolt on two columns A B (1); instead of taking the centre of the arch on the line a b, they raised this point, for example, so that a visual ray did not miss the springing of that arch by the effect of the

orojection of the abacuses.

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en rearest collect and by Year and Add Fridaeco Star - Bod of ters currence of tenilate and records to the contract of PORTECTS, and at the menter the printer to assert our attack the tes is the nave, i.e. teore certified to te terms at the same althre and trans. . course and it chreate analyte areas "notes lesole to more sai or halloge are ask traiting after all the of our searches; fireary that were no topes the fell -Lose feet a meanage to entitled of avenue vir . same voco to -norgon feacts on a ferious and the treates to ther dans and .veferst courses, like the normes of first, described of -th ten sacesings to indexts tribulers and whitem bintin as sale they say ters tensors of eres to biscon at associations of orr is not scalingle to our religious cuffices, it is reclacad by the word porcen.

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projection of the abacuses.

In Article Construction we gave the reasons that frequently compelled architects to raise the springings of arches. We can also return to it in Article Ogive.

NARTHEX. Narthex. Western Portico.

In the Romau basilica the marthex is the portico erected he before the nave and forming the back of the atrium. In the p primitive churches, the marthex was destined to contain the converts, and at the centre the penitent hearers opposite the door of the nave, i.e., those permitted to be present at the divine service outside of the church. During the middle ages the word narthex was not applied to the open or closed porches of our churches; further there were no longer proselytes or converts. Only since the beginning of archaeolagical studies that term of marthex has been applied to the closed porches of certain churches, like the porches of Cluny, Vexelay, Tournus, etc. We shall accept it, since we do not think that we should modify the vocabulary adopted by architects and archaeologists. It should no less be stated that the word narthex is not applicable to our religious edifices; it is replaced by the word perch.

There are also open and closed porches. The churches of the order of Cluny and those of the order of Siteaux all have more or less extensive closed porches before the nave. The porch of the church of Cluny was even a sort of very large ante-church, like those of the abbey church of Vezelay, Charite-surloire, S. Philibert of Tournus, etc. The distinction between open and closed porches often being very difficult to establish, we refer our readers to Article Porche for the study of that very interesting part of our religious edifices; the more that we cannot state why the archaeologists of our time have given to closed porches the name of marthex, while the true narthex was nearly an open portico, at least on its front side, in the first Christian basilicas.

NEF. Nave. Aisle.

The antique Roman basilica consisted of one or these sisles terminated by a semicircle serving as tribunal, before which when space permitted, according to Vitravius, was erected what

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we call today a transverse miste or transepts. The word nave thus signifies only that the hall is longer than wide, enclosed by two walls and a roof, or accompanied laterally by two lower aisles, supporting a gallery of a shed roof. In the first Christian basilicas, like S. Paul-without-the-Walls at Rome, the aisles have been carried to the number of five; a central nave and two side aisles on each side of the middle nave. Today the name of nave is not given to the side aisles. but only to the middle space, that is covered by ceiled carpentry or waulted. The old church of S. Martin-des-Shamps at Paris, now Ecole des Arts et Setiers, consists only of a single nave rebuilt about the middle of the 13 th century and terminated by a choir of the 11 th surrounded by a side aisle with chapels. The cathedrals of Rheiss, Amiens, Rouen, Chartres. Bayeux, Coutances, Tours, etc., have a central nave with single side aisles before the transepts. The cathedrals of Pa paris, Bourges, Cologne, the abbey church of S. Sermin of Toulouse, etc., have a central nave accompanied laterally by donble side assles. Until the end of the 12 th century, the naves of churches with side sistes scarcely exceeded 32.8 to 36.0 ft between the axes of the piers; but after the Gothic period. those naves attained 49.2 and 52.5 ft. between axes of piers. As for the churches with a single nave, like the oathedrals of Toulouse and of Alby (12 th and 14 th centuries), their inside width reached 65.6 ft. and more. (Arts. Architecture Religion se, Cathedrale, Travee). The monastic churchsof the Jacobins . built during the 13 th century, were habitually composed of two naves of equal length, width and height; those twin naves are separated by a row of piers (Art. Architecture Monastione). That arrangement is also observed for halls devoted to monast ic or civil uses, like the refectory of S. wartin-des-Champs at Paris, and the old great hall of the palace at Paris. (Art. Salle).

Our oldest French cathedrals were mostly coceived with a central nave accompanied by single or double side aisles, b but without transepts. The cathedral of Noyon, among those e erected during the 12 th century, and that of Soissons, form the only exceptions to this rule. Not only those great churches contain no transepts, but they were without lateral chapels; scarcely some of them preserved three very small ones ope-

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To all leading the course of these to be control the information of the course of the the course of the the the course of the the course of the the course of the course o

opening from the side aisle of the sanctuary. Excavations that we made in the cathedral of Sens, built as all know about the middle of the 12 th century, have brought to light the bases of the piers that extended to the middle of the existing transept, and when one knows that fact, he easily recognizes how in the 14 th century, transepts were added to that great church by destroying two bays of the nave at right and left. At Senlis is the same arrangement, the cathedral consists of a nave with side aisles and without transepts. The addition of the transverse aisle is easily recognizable there. The cathedral of Meaux, which dates from the end of the 12 th century. was originally without transepts. Even at Baris, holes made in the extension of the piers of the choir and bays remaining visible in the spandrels of the great vault of the crossing. lead us to believe that this church was also conceived without transepts. Finally at Bourges, whose construction dates b back to the first years of the 13 th century, but whose composition in plan is earlier (Art. Cathedrale), there existano transepts. Then one can conclude from these facts, that the programme of the French cathedral of the 12 th century, given at the moment when the bishops united the efforts of the comunes and commenced those grand structures, only required a c central nave with side aisles, without transverse aisle, orossing or transepts, and even frequently without chapels. The French cathedral was thus only a hall, a basilica; a place of assemblage for the citizens, at the centre of which was the altar and the throne of the bishop, the cathedral. Let us again state, that in most of these edifices, at Paris. Senlis and Meaux, upper galleries were arranged like the alleys of the second story of the antique basilica. A text supports this fact of the absence of transepts in the cathedral churches rebuilt at the moment when the art of architecture passed into the hands of laymen.

In his Rational, William Durand in describing the different parts of the church (Chap. I, sect. 17) says: - "aertain churches are built in the form of a cross," and in taking in a mystical sense each part of the church from choir to the porch, he does not mention the transvesse aisle. Now since he states that "certain churches" in his time were not in the form of a cross, it cannot be doubted, that some existed without them,

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and William Durand, bishop in 1285 and dead in 1296, had then seen several French cathedrals without transepts. The minute attention with which that celebrated prelate sought to give a symbolical religious signification to the various parts of the church further indicates the tendencies of the higher clergy at the epoch when he wrote. It then concerned the erection of a cathedral, built by the aid of circumstances rather political than religious, the civil character that it retained in the minds of the urban people; and for us the establishment of the transepts, of the lateral chapels and the enclosures of the choir, during the end of the 13 th and beginning of the 14 th centuries; consequently the destruction of the great primitive naves of the bishops' churches of the first Gothic period, in that it indicates the communal movement urged by the bishops in the 12 th century, because they hoped to profit by it to ensure their power, and the olerical reaction against that movement, when the royal power had firmly established itself, and the episcopate must renounce the subjection of French society to a sort of theocracy.

NICHE. Niche. Recess.

A recess of small depth made from the face of a wall, pier or buttress, for placing a statue. Niches are not common in the architecture of the middle ages; they are not seen in the edifices of the Romanesque epoch, and they appear only at the beginning of the 13 th century. We cannot give the name of n niches to arcades filled by round figures, for example like those decorating the facades of Notre Dame la Grande at Poitiers or of the cathedral of Angouleme.

The architects of the middle ages had not thought of placing on the surface of a wall a recess without any motive other the than to receive a statue. The taste and good sense with which they were endowed did not permit them to employ these means of decoration, that could only be compared in architecture to the useless lines placed in their verses by certain poets. The Roman architects of the empire used and abused even the niche, but the system of their construction lent itself to that. In order to lighten the enormous masses of masonry in the Roman structure, and to economize the materials, niches were made in the solid masonry, that after all were only recerses with

discouraged areas. Ten nost costal section of takes mines, lie to the sing in the effected to similar a tente a tente cake a sitrir and to soudesidons and di an' . Soulle a bucalo and greng got varsenen nortes and vinc thived atrice and seek farction, there was no cashes to librated them by veide, the stages space only as one some of bistreakes, i.e., weers six eque of figs at at the dot of our bridge adver noticellated to sood and de made one sonoin landth ... cetted to Jamil & Ji erand .serices of the nave of "lose case of Chartestan east are size seen to fore the tops of some of the pertreries of as it say to granning base to Intendue and to svin and po tente are asacra, tieres thouse satisfic (). (You Jose -cus seems and scenned of the sinteed and object asonised and Lake of the splays. It tress proper see not to vake se, but fore a projecting frame around a status, in a TOLD RESULT PROBLEM OF MIS SORE OF MICHE IN 1818 OR ERE - miggs sad lo invise and as area to interest and lo sheer! ins of the access of the this courses. The cautivesses cours it. From Mose Laurely, the eronitest has profited by the torstoone cond suiscelors a vo ar arest of action one tease. the length mendiction of the contract of the section of the court -9-9 . And abnote Trot seens . Crisecon and to buck bis to it spent to child and aversors and lo company that it is applied Lestron Lourestaint is the care, Tellingues, une if the color -recens the toring the case of the fire of the state of the ification of the Church. 1

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discharging arches. The horizontal section of these niches w was either a semicircle or rectangle, and in this sort of cellwas placed a status. But in the architecture of the middle a ages the solids having only the section necessary for their function, there was no chance to lighten them by voids. Thus niches appear only at the tops of buttresses, i.e., where the construction having nothing more to bear, it is well to give it a light appearance. Actual niches are seen at the tops of the buttresses of the nave of Notre Dame of Chartres. Others are also seen to form the tops of some of the buttresses of the nave of the cathedral of Rouen (beginning of the 13 th century). (1). Sometimes though rarely, niches are placed on the buttress beside the portals and to connect the great statuary of the sphays. But these niches are not made in the mass. but form a projecting frame around a statue. One of the m most beautiful examples of this sort of niche is seen on the facade of the cathedral of Paris, at the height of the sprime ings of the arches of the three portals. The buttresses receding above those imposts, the architect has profited by the lesser projection to crown it by a projecting band supporting two little monolithic columns surmounted by an arcade. covered by the slope of the recession. Those four niches that participate in the decoration of the doorways are filled by four figures representing S. Etienne, the Church, the Synagogue a and S. Denis. We give (1 bis) the niche containing the personification of the Church. 1

Note 1.p.415. This statue was destroyed at the end of the last (18 th) century, and has been restored by M. Geoffrey-Dechaume. It is one of the best statues of that distinguished artist. The Synagogue forming its pendant is by M. Fromanger. The statue of S. Denis is by M. Pascal, and that of S. Ettenne by M. Chemillon. Another niche on the return is seen on t the south side; it shelters the statue of S. Marcel, from the chisel of one of our best statuaries, M. Towssaint, recently deceased.

We cannot regard as niches the pinnacles that cover the buttresses of the oathedral church of Rheims (Art. Pinacle). But around the choir of the cathedral of Mans the faces of the b buttresses at midheight are lightened by niches containing s statues (2). (About 1250). One will note that these niches a Allow the face of the couprass to case, and are cally an arrest in cetars to that face. As attached as the couprast of the couprast and from the face of the sarpobure.

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splays of the contain. Fid. 3 divas the arrandement of those diones, that we have traced in plan at A.

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allow the face of the buttress to pass, and are only an arch in regard to that face. The statues being set on a projecting plinth, the niche is only a frame enclosing a statue projecting from the face of the structure.

Thus are always treated niches until the end of the 13 th century. At the beginning of the 14 th, niches are decidedly made at the expense of the surface; they form a recess. Thus are treated the niches arranged on the exterior between the windows of the great chapels around the choir of Notre Dame of Paris (1-325). Again there the statues are placed on pedestals that are behind the external surface: they are twin. i.e.. that two personages are always combined. Et seems that the architects of the middle ages thought only that isolated statues placed in niches could produce a happy effect: they took care to combine them at least in pairs. Besides those niches around the choir of the cathedral of Paris form a continuous decoration wit the windows: they participate in the entirety. On both sides of the southern portal of that cathedral church. a portal dating from 1257, one likewise sees niches arranged in threes, that continue the series of statues placed in the splays of the portal. Fig. 3 gives the arrangement of those niches, that we have traced in plan at A.

In the interior of that portal on the south wall of the transept exist actual niches between the gable of the central portal and the two lateral ornamental gables. Those niches (1257) are very shallow and are surmounted by high canopies as if to indicate a prominent point and not a recess, and the statues are still supported on pedestals.

It was only in the 15 th century that were made isolated n niches, that could be regarded as such. One sees them at the angles of facades of certain houses of that epoch; but 1 likewise they are always surmounted by a canopy, and the statues rest on a corbel. (4).

Note 1.p.419. From the house called that of the aueen of S Stally at Saumur.

All these examples do not have the character of the niche, as it was understood after the 16 th century. On the facade of that house of the Musicians at Rheims (Art. Maison, Fig. 11), the piers between the windows are slightly hollowed like niches terminated by a segmental archivolt; but the seated s

skitist reciss strongly, and rest on carrain, openent and actional attachments of the or said trains, and rest at electric interests of correct said to a sound; set from the correct said of the alone, they carrain the action of the alone, they exist to the action of the action of correct of the action of actions of correct of action of action of action of action of action of action of actions and first a continuous rand of figure.

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Note 1.9.420. Ports. 1843.

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OFFIG. Bye. Round Window.

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statues project strongly, and rest on corbels, presenting a pronounced outline on that facade, and form an entirety like the combination of figures participating in a scene; far from appearing as each in its niche, they rather seem to be in concert. Also on the lower parts of certain facades of churches, in the splays of porches, one sometimes sees a series of niches crowned by canopies. But the statues that fill those niches jostle each other and form a continuous band of figures, and so one cannot regard them as being placed in niches.

Like true artists, the sculptors of the middle ages rarely adopted an isolated statuary. For them as for the Greeks, statuary was the development of an idea, a series, and it was but exceptionally, that they allowed the single figure. (Art. Statuaire).

NIMBE. Halo.

A halo in the form of a disk, that accompanies the heads of divine personages and of saints. M. Didron in his Iconographie chretienne. has devoted a long chapter to the history of the halo in the monuments of the middle ages. We can add nothing to that learned essay, to which one must necessarily refer w when it concerns the sculpture or painting of our old edifices. (Arts. Statuaire, Peinture).

Note 1.p.420. Poris. 1843.

NOUE. Valley.

A rentrant angle formed by two intersecting slopes of roofs. Valley rafter denotes the timber of the carpentry, that supports the rafters of the two slopes of the roof that intersect. In the old carpentry composed of trussed rafters, the rafters assemble on the valley rafter. (Art. Sharpente).

NOYAU. Newel.

A cylinder of stone or of wood rising from the bottom end forming the axis of a screw stairs. Newels are solid or hollow, attached to the steps or independent, in the last case supporting them by caeans of mortise or rest. (Art. Escalier).

OEIL. Eye. Round Window.

This name is given to circular openings pierced in gables,

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'ossal with large round one inde, this in value elles the caststate of one catter of the caststate of belie, and that dust nessed are also southess called over or lassones. Income, hardtes have or coals of the primitive "artaxing that had as a circular openin" with laberial sousy, and was clerity to be from table and account to be the carry called. "To crite of the traintion is said! found to bettain that our chartes, supertaily south of the rotre. For common rose arctice in the development of the cotre. For common rose arctice in the development of the eye of the country of the country of the cotre.

OFFVR. Pointed Arca. Distonal Arga. Cross Vault.

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and which are intended to give air and light in the roofs.

Bosses with large round openings, that in vaults allow the passage of bells, and that habitually take the profile of the diagonal arches are also sometimes called eyes or lunettes. (Art. Lunette). The eye or could of the primitive Christian basilica is a circular opening with internal splay, that was pierced in the front gable wall above the carpentry ceiling. The trace of that tradition is still found in certain Romanesque churches, especially south of the foire. The Gothic rose window is the development of the eye of the primitive basilica. (Art. Rose).

OGIVE. Pointed Arch. Diagonal Arch. Gross Vault.

Quite improperly the name of ogive is given to the figure formed by two circular arcs intersecting at any angle whatever. Thany pages have been written on the origin of this word, and party spirit mingling with it (party in art matters is meant), men have so fully confused the matter, that any conduction seems to have been postponed till calmer times. We first declare that we do not pretend to give here a solution, that further it matters very little; it will suffice for us to furnish to our readers the data: that we have been able to collect on the adoption of that form in architecture after the 12 th century in France, statements whose accuracy can be verified on the monuments themselves. As for the conclusion, we shall leave to everyone leisure to deduce it.

Note 1.p.421. "Croix d'ougives" at the beginning of the 14 th century signified the diagonal arches of a Gothic cross v voult. Now these "croix d'ougives" or "arcs ogives" are most frequently found arches. "Item II crois d'ougives to form the voults above and an arch between II crois d'ougives." (foundation deed of a chapel at Averdoin, June, 1347. Archives of duke de Luynes. See Vol. II of Annales archaeologiques, p.41, Article by N. Lossus on "arc ogive.") During the middle ages and till the 16 th century, the words "agive or augive, arcs augives" were applied only to crossed ribs. The other arches if pointed, were termed "arc doubleau, tiercerons, formerets. (Arts. Arc. Construction).

Compasses having been invented, the intersections of circles were obtained, and consequently the figure called the pointed

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arch. It is not the origin of the figure that it is important to seek, but the origin of its application to construction. F From the monuments of Asia, Freece and Italy of very high antiquity, we are shown pointed arches, i.e., tunnel vaults or cavities (for example like that of the treasury of Atreus), \* whose section is given by two intersecting circular arcs; but all those monuments without exception present horizontal join ting, i.e., the beds of the stones forming these tunnel vaults or cavities are horizontal and not normal to the curves. But this is an essential point for architects, for one cannot give to these concave surfaces the name of arch or vault. Let us then abandon this origin that teaches us but one thing, to la know that when it is necessary to cover a passage or a hall, there were given during the primitive epochs mentioned, various forms of corbellings, the sole means adopted to arrive a t that result. Recessions, inclined planes, curvatures, these a are always corbellings and not vaults, and the pointed form is merely a caprice of the constructor, not a system. The Etruscans indeed built true arches, i.e., composed of voussoirs with joints normal to the curve, and the Romans who built arches, tunnel and cross vaults, and hemispherical domes, never adopted the pointed arch, or if they did do so, those are the exceptions too rare to derive conclusions from them. The Romans accepted only one curve as generatrix of the vault, which is the semicircle, what is called the round or the segmental arch. From Augustus to Constantine, is no exception to this m method. It is only in the 6 th century that we see the pointed arch on the shores of the Mediterranean, in Egypt at Cairo: and there it already appears as the result of calculation. In another work we have explained in a detailed manner how the a ancients employed the triangle to place their edifices in proportion: 1 how among those triangles they adopted three: - 1, the equilateral triangle; 2, the triangle erected on the diagonal of a pyramid with square base, whose vertical section t through the vertex paraleel to one side of the base is an eq equilateral triangle; 3, the triangle whose base is 4 with a height of 2.5 taken vertically at the middle of that base. Th These three triangles give at the vertex an angle less than 90°; thus it is possible to inscribe them in a semicircle. The last of these triangles, that on which was drawn the pyramid

of parons, and acton passes among too Programs as neita to read the personal termination according to bee seatoness of Plutplants to the subject the best of a b as a section of the contract of the cont to affith and we o druce out as heleson entectinents, the the k addice and balaich the stree P. The well so , and and and to slatte and next .b d a slanging any mention at .a ca a el e ,e sa caed eda apo of defecionecaeo a baudeen h d acta the camer of the are by d'd, of swide the side b d in gaggin opoceales minitarly for the side a d. we nave tracel and er--984 zi dean ascamoo aeda bas . E salou sas de Paissanadal es med a noisted arca. Paking the triabels a h d as the deceraor of propertions, i.e., as diving a catherony relation of becaren the base a o acc the neght o d, it was setted to r retain that relation between the sounded the noises of the descend and and toliaring these mathed a consectation one are the continued of Aleisadeau, From the C to continue on e ers, sed has sensol of the Mastorians, that soon ander to a remarkant defens of anticador anoma tos senses of the Crient, formers of the appairmenters to which is diven the name of Arsb. The design of the Oresia found inself senin in this principle of the opportion of arches, es we have demonstrated elections.

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saurostidato' dann naddasian (magicus) . SSA. 4. 5 stol The envilonment briegele (Fig. 1 at F) is also a recordor of tens discount smen; out is wes only employed much laker, w while the triupfic taken on the distonal of a south byramid. -it sec of fellers wester end discour acides fechicar seeds de of sea base dives an equileveral brigatie, and was adopted very early for tracial the mainted arch. Tet I d h he one half Incitary esody , himsang samps a to noitoeless Isteories and -some footing on the selection of the vertical sections as at it is consequently to an the discount in directic triangle f h l. Treating a -sira sina to f n obia see to statim end of a m mafectuasqueo mele, the coins a st the interesection of this perpendicular with the base I n will dive the centre of the ero a to a Trasince env of laces sinns ar refers as I daing she mont bein lause ond cant clans that testivib a f sail that than on . 9 3'l encies, ne mave the two sides d e, t r of en equilateral triangle; erologging how traces of the area l o t to their interof Gheops, and which passed among the Egyptians as derived f from the perfect triangle, according to the statement of Platarch, is then that at A (1): a b being divided into 4 parts. on the perpendicular erected at the point c at the middle of the base, we lay off 2.5 parts c d: joining the points d and a to b, we obtain the triangle a b d. From the middle of one side b d erecting a perpendicular to cut the base at e. e is the centr of the arc b d'd, of which the side b d is chord proceeding similarly for the side a d, we have traced two arcs intersecting at the point d. and that compose what is termed a pointed arch. Taking the triangle a b d as the generator of proportions, i.e., as giving a satisfactory relation be between the base a b and the height o d, it was natural to r retain this relation between the span and the height of the keystone of the arch. By following these methods proceeded t the architects of Alexandria, from the 6 th century of our e era, and the school of the Nestorians, that soon arose to a remarkable degree of splendor among the peoples of the Orient. fathers of the architecture to which is given the name of Arab. The genius of the Greeks found itself again in this principle of the proportion of arches, as we have demonstrated elsewhere.

Note 1.p.422. Neuviene Entretien sur learchitecture.

Note 2.p.422. Traite sur Isis et Osiris.

Note 3.p.422. Reupione Entretien sur l'orchitecture.

The equilateral triangle (Fig. 1 at B) is also a generator of the diagonal arch; but it was only employed much later, w while the triangle taken on the diagonal of a square pyramid. whose mertical section through the vertex parallel to one side of the base gives an equilateral triangle, and was adopted very early for tracing the pointed arch. Let f g h be one half the horizontal projection of a square pyramid, whose vertical section on i k is an equilateral triaugle; the vertical section on the diagonal f h gives the triangle f h l. Erecting a perpendicular m n to the middle of one side h l of this triangle, the point n at the intersection of this perpendicular with the base f h will give the centre of the arc h o l. Tracing from the point 1 as vertex an angle equal to the augle l'f g, so that the line l p divides this angle into two equal angles, we have the two sides 1 g, 1 r of an equilateral triangle: prolonging the traces of the arcs 1 o t to their inter-

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intersection with the sides 1 r, 1 g; g r l is an equilateral triangle whose sides g l and r l are chords of the arcs l o r. 1 o'g. The pointed arch g r l is a horseshoe arch, it gives a greater span f h between the two arcs, the proportion of the triangle f h l, and at its springing q r, the proportion of the equilateral triangle q r l. The faces of the piers of that arch will be at s and t, i.e., in the verticals through the two points f, h. This form of horseshoe arch was frequently employed in the monuments of Persia, and is found already adopted for the construction of the porticos of the mosque of Amrou at cairo built about 640, with some variations in the mode of tracing. But the architects of the school of Alexandria and the Greek artists, leaders of the peoples of the East after the 5 th century, did nothing more than to give the pointed arch a method of drawing to satisfy a delicate feeling for proportion. Although in the construction of these arches the joints of the voussoirs were normal to the curves and tending to the two centres, as seen at X; 1 that consequently the construction accorded with the form, and all these pointed ar arches were more resistant than the round arch, while exerting a much smaller thrust, yet the oriental architects had not d discovered any other application of this new form, and the system of vaults was not modified by it. It was reserved for the architects of north France to take possession of the pointed arch and to make it the starting point of a new construction. of an original art.

Note 1.p.424. The Italians have never understood the reasons, that caused the adoption of the pointed arch from the point of view of proportions and of its actual function. One can have proof of this if he observes that nearly all pointed arches are jointed like a round arch, i.e., that the joints of the voussoirs radiate from a siugle centre, which is nonsense; t that the proportions of these pointed arches nearly always present a disagreeable proportion between the base and the height. But the Italians of the middle ages did not comphehend much of Greek art after the late time, and the Greeks knew t this, for they regarded them as barbarians.

On pointed or round arches (for the orientals employed them simultaneously, although the pointed arch persisted more at Gairo and in Persia than elsewhere) were erected in the entire

Tack devices the development of anyther act and the development and the second of the second o g with the state of a second particle and a second particle and a second TARREST A A STATE OF A STATE OF THE ASSETT OF THE PROPERTY OF wis the same of th gere literatura de la comisión de la AT ANALYSIS OF MILES TO THE TOTAL TO THE TOTAL TO BE AND THE TANK THE TOTAL TO THE TRANSPORT OF THE TOTAL TO THE TOTAL TOT and the charge on a filter stade that y'es about the first serve to verse to the state of the server of the contract of unce how his with his was glad to of a kant a tribublent -gree in all the contract to be a business of the contract of to refer, the last vact, and and the last the base is a addistriction of the contraction of section is additional your car included and analytic of the second of the second CE CHIMINE WIRE . TINCHT 1. THE ASSURED TO CHARLET SHE AL statistic bas proces yets potessa, and a processative out and man permit the form of selections and the selection of the first of ALTERNATION OF THE STORY OF THE The termination to establish the establish the second of the second bee . The but to apply a bound were accurate caracters there was interestable to be supplied to the series of the series and the first recognition of gradual terms of the second and the second second second . I the the continues with rescut country a continue and the already a dreat advance.

Note 1.p. 125. See the venits of the side vision of the convents of the side a church of the church of Poissy. etc.

The Tiuries, who from the is couldy at the service of the country of the could be at the could be at the country of constructions.

Note 2.p.425. The tronsverse orches of the church of 3.7r-ont of Perigueux date from the lost years of the 10 th century ond are already pointed.

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East pendentives and spheroidal calottes, as in the first times of the empireof Byzantium, without seeking to derive from that new form of arch consequences of the nature to modify t the construction of vaults. With that inventive and practical genius that distinguishes the peoples of the extreme West. our architects from the beginning of the 12 th century, i.e., after the first crusades, took posserision of the pointed arch and quickly made of it an application fertile in results. Until then in France only the Roman wault was known, and men strove to transform it without obtaining only rude attempts indicating a desire to satisfy new requirements much more than au advance. No longer constructing in concrete and rarely in brick, the Roman vault was only closed after numerous difficulties, only by the aid of experiments. The projecting groins of the Roman wault were built on a centering, and when it was desired to construct them of rubble, they offered no stability: the crowns were raised, and a compromise was sought between this form of vault and the dome, so as to give the 1 least possible projection to these groins. 1 that men did not know how to maintain between the parts of cylinders or of conoids thrusting outward. They tended always to the dome, and sought by means of permanent centres or by jointed groins from the beginning of the 12 th century to maintain the lobes of the warlts. These jointed groins (diagonal arches) were alalready a great advance.

Note 1.p.425. See the vaults of the side aisles of the c church of S. Nortin-des-Champs at Paris; those of the side a aisles of the church of Paissy, etc.

The Cluniacs, who from the 11 th century were masters in t the art of building, and who had formed a school of architecture already brilliant at that epoch, were the first who knew how to apply the pointed arch to construction, not only of arches but also of vaults. In constant relations with the East, they brought from themsethe pointed arch; but it was only on French soil that this arch produced a revolution in the art of construction.

Note 2.p.425. The transverse arches of the church of 8. Front of Perigueux date from the last years of the 10 th century and are already pointed.

In fact all Cluniac and Cistercian monuments built in Pales-

go pediaty along the form, moving of the at a while local selection with the state of the season of the -piccount that a cold in a cold in all the test to be come and the cold . Chi in a few ward and the children and the batterian best but el vants or the dome. Sub as soon as introduced in the French cally logical and leading to the same accordance the vanit and modified it. First see how the commission one -color is exact a color of the fact stack at a 10 cm. - as tion is employed to correspond the friends a south a big of -it out out no same of sections of sections and of the electro and ci agonals a d, b c, the naminohers is out into four equal parts abe, ace, cde, doe. A vermost plane amount on a b will townsect the heatsphere in a seniritede a b f. and assamine tais senterele to be a round scenaverse area, and reoeating this on the forc sides of the sousre, one will obtain a more and a second of the second of the second of the second of at right andles and forming for perfectives. Fut if we decire co mare of this calcad state borne on contential vault, instead of samioiroles on the sides a b, b d, euc., we and replaced to the second of orowns d n of these pounted arones with the point a, we deren from the calotte the distonal troins a e. b e. i e. eso. am we obtain the curvel surfaces a f e, b f e, etc., which can gedone reduce ent vd laterened etilev fenals ic accirco ed and fraceib loor ever as a social that a social the rest discourt for nes a d. b c. to seniciroles a c d. o e c. This was already solver the estential proofes, viz: - t. de sole to make organ while the action buildings for bridge as a solution ats and disasters. The Rowns and Syzactine Greeks and not a indicated and the column and Lane to the terminate visit for variation and particular and a single for the contraction of as a sectional for evenue arona cause of fuelonarines a ca ty detinested in the contract of the contract senigrania Alest de Calletta Dichter de Later de Later de Later right and the first arms of the former arms to back out it and the contract of the telline and the contract of the contract of cal note of the second for interesting or end to sale verification and an entire of the content of the transfer that targie, one filled a linder with the first the section of

Palestine before the 13 th century, and so fully described by count Melchior de Vogue in his work on the Holy Land. in adopting the pointed arch still retained the system of Romanesone construction, and in none of these edifices does the pointed arch intervene to modify the Roman proservantar the tunnel vault or the dome. But as soon as introduced in the French provinces north of the Loire, the pointed arch combined with the wault and modified it. First see how the combination occurred. Let (2) be a hemispherical dome whose horizontal projection is presented in perspective; inscribing a square a b c d in the circle and erecting two vertical planes on the two diagonals a d, b c, the hemisphere is cut into four equal parts a b e. a c e. c d e. d b e. A vertical plane erected on a b will intersect the hemisphere in a semicircle a b f. and assuming this semicircle to be a round transverse arch, and repeating this on the four sides of the square, one will obtain a horizontal calotte penetrated by four cylinders intersecting at right angles and forming four pendentives. But if we desire to make of this calotte vault borne on pendentives a cross vault, instead of semicircles on the sides a b, b d, etc., we erect four pointed arches a b g. b d h. etc.. connecting the crowns g h of these pointed arches with the point e, we detach from the calotte the diagonal groins a e. b e. d e. etc., and we obtain the curved surfaces a g e, b g e, etc., which can be portions of tunnel vaults generated by the pointed arches and giving by their penetrations in the vertical diagonal planes a d. b c. th semicircles a c d, b e c. Thus was already solved the essential problem, viz: - to be able to make cross vaults on all plans with generating arches of different heights and diameters. The Romans and Byzantine Greeks had not a attempted anything until then. except to cut th hemispherical vault by vertical planes, which section was always given only as a semicircle. 1 Our western architects proceed the same, only that having seeu the pointed arch, then set iu place of the semicircle given by the vertical section, and raised the sides of the dome on that pointed arch. Their operation is simple in principle and can be defined thus: - assuming a hemispherical dome of elastic material and flexible, making the four c cuts vertically over the sides of a square inscribed in the circle, one raises a little with the finger the upper part of

Short Round yet estates are to Terre Sointe, by count me de

orinoiple already wise and resconsole.

Note 1.p. 122. By the reason that every section of a sphere by a plane stude a circle.

dote 2.p.126. Other discoveries as single in principle and fartile in results have token much time to appear in this month; but rorely have those flashes of the hunon wind been responded as a sign of borborism. Herein have peoples, by the midset of which new light has appeared, sought to dim its splandary.

Set us first take one of the vanits of the side assles of a stance of the mail over the collect at the color of the THE ENG. T. P.S. LE. LOUIS AND STREET, LESS AND STREET THE THE THE THE ver icul il da Oassala de Coast To dislocate a rue d'aller two sentcircles, one of waita as revolved down in a b 1. To - de sac es as as as as as as as a contra de sac as as as as as a contra de sac a contra de Tiped 1 of last till alk sex in the tastalian 1 as a control ency the springings of those archer. The lavel line 8 C being drawn; the length of this line being d b and size of the acaare, this line was divided in four parts; eresting a perpentediate it to whole of and acres acres to the trace the tediate The was divided in the court of the same affiliation and agree of the same agree of of the apriaging line. Thus was traced the briangle of h f. W were a bristonic of corp. in the first bill be after the out enticular e i, the intersections i of these perpediculars wi anche of to severe end naiv dliev end to 'h ancre end beiniol archas, the order valid decreases to be a contract to the archae AV TOUR CLASSES AROUND 188 NATHEREST PROTESTED

ide criciose near albert, had abe meden follorer ing continuos replications in a structure to the fresh e centres rate of the first continuous rate above that, had a representations of the first continuous rate of the continuous

each cut; the surfaces remaining from the hemisphere follow that movement and form two diagonal folds, that vanish at the top of the calotte. To obtain such a simple result, how many centuries were necessary? <sup>2</sup> In the porch of the abbey church of Vezelay, built about 1135, we find an application of this principle already wise and reasonable.

Note 3.p.425. hes eglises de la Terre Sainte, by count m. de Vogue. Paris. 1860.

Note 1.p.426. By the reason that evern section of a sphere by a plane gives a circle.

Note 2.p.426. Other discoveries as simple in principle and fertile in results have taken much time to appear in this world; but rarely have those flashes of the human mind been regarded as a sign of barbarism. Rareln have peoples, in the m midst of which new light has appeared, sought to dim its splendor.

Let us first take one of the vaults of the side aisles of that porch, vaults built on a square plan (3). The generating form of that vault is a hemisphere. The proof is that the two vertical planes passing through the diagonals a b, c d, give two semicircles, one of which is revolved down in a b d. To trace the transverse arches, above the line formed by the abacuses A of the capitals was taken the distance A B, so as to show the springings of those archer. The level line 8 C being drawn, the length of this line being d b the side of the souare, this line was divided in four parts; erecting a perpendicular at the middle of this springing line, this perpendicnlar was divided into 2 1/2 parts, each equal to a division of the springing line. Thus was traced the triangle g h f. Fr From the middle of each side of this triangle erecting a perpendicular e i. the intersections i of these perpendiculars wi with the line g h gave the centres of the pointed arch g f h. Joining the crown d' of the vault with the crowns of the four arches, the cross wault generated by a hemispherical dome and by four pointed arches was constructed.

The principle being adopted, the consequences followed with prodicious rapidity. For the Roman architects, the great embarrassment was not to build vaults on a square plan, but on rectangular plans. In that case the Romans built tunnel vaults with penetrations, Weslh groin vaults, i.e., generated by

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of the spines of the principal at the contract as the on any serie research of the sact feet to delete a territoria poteted ourve B C D, whose rise A D has 2 1/2 of the four diwith the rate. I am tribite to the control of the rest of end ded later meder militerative, and a be self hed brief regulariados ses su este en entre arte de la contraction de la fraction de la financia del financia del financia de la financi paralleliparam 3 9 9 0 in carbed in the circle. If the done ware trainingered, and very marked are sparted by F T, T a. s would give the senicircles S G G. B H: out we fear the threand to see that the sone that the sect over on the team start and remarkation to me and the second of the second and acceptance to a mania say dear and any say so say a say a section of the say of into two enual parks, and taking the points I I', X X', as c centres, the lengths I P. I'E. M B. as radii, we describe the two pointed arches 8 L F. 8 V R. pointed arches that are the former forms of the tropy supply sport for said favilies said one vault. Hence the dismeters 8 C. F F. whose revolved form is struct the collect and a file of the structure of the structure of vd sevis enc nedt timev ercro a reuter ed line cluev ent bos tos dome; furtase we shall be .ble to dive to the arca ? ?. seful a translate and a selection in each are stated in owing this principle were constructed but his vaults of the porce of the above course of Verslay. Put let us first state an essential fact, that accours to have teen decleated in the saire sel te select est au thit to the caste and as a caste and a vaults of the middle sees; this is that the making of the drwind so the moment of translation was not done for the intraacceptable dealers of the contract of the contract to be an extended

in the example, of Fife ?, the decom of the transverse arenes

two intersecting cylinders of different diameters, the cylinders of the smaller diameter having their springings above t those of the cylinders of larger diameters, which produced a very bad effect. But when the dome became the starting point of every vault, this embarrassment must disappear. We have explained in Fig. 2 how from a hemispherical calotte one could make a cross vault on a square plan, by substituting pointed arches for the semicircular sections given by vertical planes erected on the sides of the inscribed square. The consequences of this innovation did not require to be waited for.

Let (4) be the dome on a circular plan with centre at A. The vertical section of that dome made on a diameter gives the p pointed curve B C D, whose rise A D has 2 1/2 of the four diwiding the base. It is required to make of this vault presenting the form of a teat, a rectangular cross vault. Let the norizontal plan of that rectangular wault be the rectangular parallellogram B F E C inscribed in the circle. If the dome were hemispherical, the vault sections erected on B F. B E. w would give the semicircles B G F. B H E: but we fear the thrusts, and we have adopted the pointed arch as a means for making these thrusts less powerful, in order to conform to a system of proportions that satisfies us better than the round arch. We then divide the base lines of our sections B F. B E. into two equal parts, and taking the points I I', K K', as c centres, the lengths I F. I'B. K E. K B. as radii, we describe the two pointed arches B L F. B M E. pointed arches that are the revolved forms of the transverse arches on which will rest the vault. Hence the diameters B C. F E, whose revolved form is given by the pointed arch B D C. will become the diagonals. and the vault will be rather a cross vault than one given by the dome: further we shall be able to give to the arcs B F. B E. diameters whose relative lengths are arbitrary. By following this principle were constructed the high vaults of the porch of the abbey church of Vezelay. But let us first state an essential fact; that appears to have been neglected in the researches made up to this day on the theories of the cross vaults of the middle ages; this is that the making of the drawing at the moment of transition was not done for the intrados of the transveese or side anches, but for the extrados. In the example of Fig. 3, the depth of the transverse arches

and account to the law of policy and the following the egt to beinge doubles the state to blest the best fact to be was a solution of the contract of the contract of the contract of kout. The brankfully require set of the ball the eight ... The Beachdard, Ducker of the Dail Feb Tailine Life & et to a second feat for a local field of the second and second Tiper ens time avastraced visualous as ferman and tried aca and the term of the transfer of the state of ore the visits of sat posed of three love, the copy that the milecock -- independed to Color to the war and the following . LOTELS HER SCHOOL SELECTIONS OF LOST LIBER BY LART CH ្នុង ស្គ្រាស្ត្រីព្រះ ខុសជា ការ៉ាន់ ១៥៩ ត្រូវ។ មិន ស្រុះ១៩ និង សំខេង សេច្រើនសមិត្តនេះ ។ ១៤ C D; the verticel service of this done made on its dismeter grand by the (nalf) curve & I. the diameter paying dragge and the rise 2 1/2. The extradus of the transverse arones atacts from the colone D P, the entrustre of the sade applies follow page of a signer bright and or and a stiff of A solich and a so sink come, is together a and but to the best in TESTAL BUS DC GREEKE TO THE HEAT OF ESUSSIVED & TO A CHARLE a number of the first transfer of the state to the test of the second of the second second of the seco 2 1/2 to 4. Resolutating the briangle with side h l. erecting · constitution at the units, the netternation of this growand to be earned and savid in sail send and note refucible ers ne'l. Raining the soringing line of the side arches by the neight o p above the soscuses of the secteds, one orocests the sens as for tos transverse aron, the base line A D and the control of the second second and the second right piper on to be a tradered for the first ferritors are and an in a continuous continuous actions and a continuous continu satisfied and I am are also sai in the sai of the sate and I the transverse acco. If we join the print I accorded to by a straight line, we can clear the grain projected in 8 X 2; TELESCOPE CAN BE SC PROCESSED AND A SALE SALE AND THE SALE AND ADDRESS OF THE to noises Isoistev end al evruo jad? . E antico ont describe -ce on our J. . I described and and an end of the de T end and - ing the country of the contract of the contr The synthesis of the production, a read at the form the life of ingrants | | bright with army not character as in grand where is independent of the drawing, it is laid off downward. It is the top surface of the vault to which men first sought to give a solid form, reasoned and lending itself to all combinations. The transverse arches are placed beneath it like a rib or a discharging arch intended to support structures over it. Thus the diagonal groins do not yet appear, their presence not being regarded as absolutely necessary, while the vaults derived from the dome support themselves. Let us then see those high vaults of the porch of Vezelay. (5). The four piers being drawn, -- they are indicated by hatching, -- according to what we have just demonstrated in the preceding example, the diameters of the generating dome are the two diagonals A B. C D: the vertical section of this done made on its diameter given by the (half) carse B E. the diameter having departments and the rise 2 1/2. The extrados of the transverse arches starts from the points D B, the extrados of the side arches from the boints A B. That transverse arch being revolved is drawn thus:- the abacuses of the capitals being at the level G. so as to show them. the springings were raised to H. The base li line h i of the extrados was divided in 4 parts, on the middle k of this line being erected the perpendicular k l, it was m mad 2 1/2 parts, so that this rise k 1 may be to the base as 2 1/2 to 4. Establishing the triangle with side h 1, erecting a perpendicular at the middle, the intersection of that perpendicular with the base line h i gives the centre g of the arc h g'l. Raising the springing line of the side arches by the height o p above the abacuses of the capitals, one proceeds the same as for the transverse arch, the base line A D of these side arches being to the rise p g as 4 is to 2 1/2. The vertical section on the great axis o t of the vault gives at S the crown E of the vertical section made on A B. at T t the extrados of the crown of the side arch, at 1 the extrados of the transverse arch. If we join the point T to the point S by a straight line, we can clear the groin projected in B XS: then we seek on the base line at s the centre of an arc passing through the points T S. That curve is the vertical section of the line F t of the crowns. As for the point 1: it can be foined to the point S by a straight line, as shown by the vertical section V made on F P. The depth of the transverse i R b being fixed, it is found that the springing line R H comprised

construction in the armsneement of the vaults on a roctandular plan, and that still the armist has carefully observed a
principle of proportions, that he has regarded as food and n
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the construction of dotale voults. (Art. Bunstenstion).

DOCK STREETS I WANTED BY THESE STREET, STREET, STREET, AL TENERS OF THE STATE STATE AND A TRACE OF SAME STATE OF SAME STATES and the second of the court of the second of Aggranger to the control of the control of the control of the and one and the lateral second of a collect little second The factor of the contract of where the level were the manufactures to see any "will have not no relative to the project to a long the second second and the collect The section was the section of the s In dealpoint of engineers of each early early early early early Gaul, the masters of works recognised, that aimee only two it an after present our or peach out out? Speaking our allinously the disconsis of a preshell of your inseriose in the carele, the base of that dome, it was frankly necessary to find to these AN TENSTON OF THE PARTY OF THE at the prints one to except the unit one was or labsester are THE OR LEAST TO DESCRIPT ADMINISTRAÇÃO AND ANTIthus being able to incline in any direction, to be skew, to slondate, to bacome very concave or almost flat. The violes of the extendence of faces has feeling and an end of the statement of Ile-de-Presses built from 1160 to 1200, siready presses a reside of reverenteers, that indicate now much law trudeligater chies , where we's provide an offence terretrained for partition with the rest, with that I consider a last of any about the arms. John or der manner rapidly may arbitrately their age. -or and see equipment to faith and masses annihilated massle the of spring, - the date pulyful to design to an experbetween the intrados is divided in three equal parts by the points g and m, centres of the pointed arch. Then this arch is pointed. One then notes that the entire drawing is determined by the extradosses of the arches, that this vault is a compromise between the dome and the cross vault, that the introduction of the pointed arch gives a great liberty to the construction in the arrangement of the vaults on a rectangular plan, and that still the artist has carefully observed a principle of proportions, that he has regarded as good and n not without reason, since it results from the triangle to w which the ancients attributed a perfect harmonious value.

Note 1.p.429. These diagonal arches are called "ofteen in the construction of Gothic vaults. (Art. Sonstruction).

An apparently purely material and minimum difficulty soon compelled the architects to make a new advance in the drawing of vaults and to extend the applications of the pointed arch. About the end of the 12 th century they commenced religious and civil edifices of dimensions unusual until t em. The widths of the great naves was carried to 49.2 and 52.5 and even up to 65.6 ft. The art of architecture had then exclusively fallen into the hands of the laymen, and they soon comprehended the entire benefit to be derived from the new system of vaults. With that logic that characterizes the inhabitant of Gaul, the masters of works recognized, that since only two d diagonals are retained from the dome, or two sections made on the diagonals of apparallellogram inscribed in the circle. the base of that dome, it was frankly necessary to give to these two diagonal arches a useful and indispensable function: it was essential to make them the skeleton of the vault, and to rest on that skeleton compartments independent of each other. thus being able to incline in any direction, to be skew, to elongate, to become very concave or almost flat. The vaults of the cathedrals of Paris and Senlis, those of many churches of Ile-de-France built from 1160 to 1200, already present a number of combinations, that indicate how much the lay school enaucipated itself in a very few years, while retaining the primitive principle derived from the dome of the pointed arch. Yet, -- for however rapidly they progressed. there are always transitions between the point of departure and the point of arrival, -- the dome regarded as generatrix is a tradentirely to the results of the system, that see news just indicanet. They still not in mind the snate of the dome and they droped.

Note 1.p. 121. Kove of the old cothedrol of foulowse.

fae aigh varies of the capir of the carnedrai of Paris, nmpact with a subject of interesting studies. The date of their
construction is certain, and they have not been mudified later, as occurred for most appear of the 12 an century.

The memory of the fore syndently inspired the drawing of t these value (6). A carole with centre at C and with radias O A was first drawn. This circle was divided into 9 parts. T From one points ? and 7 sere drawn two lines parallel to the main axis A A'. Trese two Lager 2 B, 7 D, ers tre faces of t the state of and an in the second of the second second second position of a little collect that is the horizontal projectica of the transverse erch of the sanctuary. Lines 8 2, 8 4, 8 6, cornect the middle AND MAKE THE VALUE OF THE PARTY - the self to make the first left to the promoted to al access, cibs of the vault of the sanctacry. For lines ? A. Large production at the contract the fact that the contract to warded by the form of the contract to the contract to al arches soutsting the radiation arches. A line ? @ perpendiother to the mild avis and bandent to bis otribe dives the b derived projection of the last transverse area for creater area. oross vaulus. Pavine taken on the main axis s leneth 9 8 eugal to 9 %, one obtains the centre, the crown of the cross vanis -na end yo ketivak si de f elevairs ens en seut jus .8 0 8 F ansverse arch 8 7, they have thought to divide the trisugies A R by a transverse area A T K. So muce for Wa mericopyil projections. For draging the arches, the meanul followed us a smis: - -- une pransverse aron 8 0, 9 6 or 2 7, is establicat by a triangle gase is 4 and beggn 2.5. On the midile

of that base or springing line 3 D divided in 4 ourse is riseed the perpendicular a o. This has 2.5 perce entel to outh division of the base, and the triangle 3 D b is driving

tradition so powerful, that for the construction of the great vaults, the architects did not yet dare to trust themselves entirely to the results of the system, that we have just indicated. They still had in mind the shape of the dome and they groped.

Note 1.p.431. Nave of the old cathedral of Toulouse.

The high vaults of the choir of the cathedral of Paris, which were completed before the year 1190, supply us in that respect with a subject of interesting studies. The date of their construction is certain, and they have not been modified later, as occurred for most apses of the 12 th century.

The memory of the dome evidently inspired the drawing of t these vaults (6). A circle with centre at C and with radius C A was first drawn. This circle was divided into 9 parts. F From the points 2 and 7 were drawn two lines parallel to the main axis A A'. These two lines 2 B, 7 D, are the faces of t the walls of the high choir above the piers. One sees that the two circular segments 2 3. 6 7. project beyond the faces of t the two walls. The points 2 and 7 have been joined by a line, that is the horizontal projection of the transvesse arch of the sanctuary. Lines E 3, E 4, E 5, E 6, connect the middle of the transverse arch 2 7 with the dividing points of the circumference, and are the horizontal projections of the diagonal arches, ribs of the vault of the sanctuary. The lines 3 E. 6 E are prolonged to intersect the face lines 7 D, 2 B, and are the horizontal projections of the branches of the diagonal arches abutting the radiating arches. A line F G perpendicular to the main axis and tangent to the circle, gives the h horizontal projection of the last transverse arch of the great cross vaults. Having taken on the main axis a length 9 H equal to 9 E, one obtains the centre, the crown of the cross vault F G D B. But just as the triangle G E 6 is divided by the transverse arch E 7. they have thought to divide the triguele D H G by a transverse arch H I K. So much for the horizontal projections. For drawing the arches, the method followed is t this: - -- the transverse arch B D, F G or 2 7, is generated by artriangle whose base is 4 and height 2.5. On the middle of that base or springing line B D divided in 4 parts is raised the perpendicular a b. This has 2.5 parts equal to each d division of the base, and the triaugle B D b is drawn. Laying

ent to anno of laces diest a s of C med sail seed set no fic voussiirs of the transvarse aron, the point e is joined to t the order o. From the middle of this line e b. erecting a per-HER AT T BELL AN ARE ACTIONS THAT THE AREA TO BE TO BE TO BE THE CORNEL OF THE CORNEL About the person of the sound of the sentence of the ambout end to entened deal end due sent , sencre lanchert ond not es they the rough for the tallester of the part the state the tallest relatives and the comprehensive against as a result tells. There is -1 the La First a is thing at the court up to coop and Live ca which the property was a to be seen to a little and the seen E most finer and to motions ont no excit a baired of exerte -problem in the season of the control of the control of the control of the level ent de acvienant bit to fin account entitlement esteve THE PROPERTY OF THE PARTY AND PARTY OF THE P Day Series La Sievicia Sin 10 est 31 est 10 est The some removed the first net mestion for some time. The service of the second of the service of the second of to there the same was a fact that are not a few and gons givening, beed 'or the state of be desired to the the Sc gires are are an area of the second and the second and with the contract of the same and the contract of the contract HE TO THE ST TRUSTED OF STREET A STREET OF THE STREET of wasse two branches, iness traces are revolved in our Fig.: while say the end of the election electric said. To be the content of the al of the order F of the transverse sech 2 7.

Fig. and the pranches 4 G. 5 S. are indeed ands of domes bec-

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off on the base line from D to e a depth equal to that of the vousspirs of the transverse arch, the point e is joined to t the crown b. From the middle of this line e b. erecting a perpendicular as far as its intersection with the line B D, one obtains at ththe centre of one branch of the transverse arch. As for the diagonal arches, that are the last remains of the dome, they are round as indicated by our revolution; their centre being raised to g above the abacuses of the capitals. so that the crown of the arches is found at a level higher t than that of the crowns b of the transverse arches, for they adhere to having a slope on the section of the vault from H to a. Therefore it was necessary for the crowns of the transverse intersecting arches I K to find themselves at the level of the crowns of the diagonal arches. Thus at p was raised the centres of the branches of this transverse arch revolved in o our Fig. The vertical projection of the transverse arch 2 7 of the sanctuarw is exactly that of the transvesse arches B D. F G. But as the branches of the radiating diagonal arches of the sanctuary must abut the crown E of that transverse arch 2 7. these branches are excentric, they are not radii of the circle whose centre i.: C: then the branch 3 E is shorter than the branch 4 E. Then is required a special drawing for each of these two branches. These traces are revolved in our Fig.: the crowns 1 and m of these branches evidently reach the level of the crown F of the transverse arch 2 7.

From all this it results that the groin arches G B, F D, F 6, G 3, and the branches 4 E, 5 8, are indeed sides of domes between which have been pierced side arches and transverse arches arsuming a pointed curve. The architects even dared not yet to free themselves from the concave shape of the dome, although the system would have permitted this, for they took care to keep the keys of the transverse and side arches lower than those of the diagonal arches, so as to preserve to the structure that form of the calotte, that seemed to them necessary for stability.

The principle of the dome megarded as generatrix of cross v vaults appears to us too important no to insist on it. Thus (7) let this be an apsidal vault on a quarter sphere, whose plan is dotted at a a, the vault called "cul-de-four," (half dome), and so frequently employed by the Romans and during the

SIGN TO BE THE REPORT OF THE PROPERTY OF THE PARTY. se con a control of the termination of a life of the standard of position of the allowest the sold for the transfer action of a later of the section of the flats of the server and a make the server of the server as the serv inuio eten . Pras ecia beinior a 30 rd . Tota ecia inata a spir instito a lo anath vone . arequised a de grand es . \*soith; ence of the all all all store and all all all and - Jagora do 19a lacer agen alera deresta part disersa a al fila tiple and talkings to vocate that to collect hade may access according to Fig. C: they date from about 1190. Those of the at regions of the state of the state of a terminate the trace that the the thirty of the fill of action the first tooch definition of the first conduct are social to to the fight, wearings of the parameter of the first factors and we se area c d. when that the track to have the cromes of those s whose froces and to seems to fourt out as among the courses. is, it is brished to the councility of the tiret, were three ber series a lab at 1 th Attack to Al . We find the and to termina policial amount of the son being and had with the state of the second s frechert and to see the est his and reches forced a section of arones, then thought to read a part of the weight if the come sara te a propinsi de la composició de l miscaken; but they soon recognized that this ourseposton and its inconveniences; it immied to overther the side arones ou See 18. 918 and 2 Dough to person to the contract of the contract of a mice and dungue of the thoroughpoole time tend to not -transmission of the or the order of the service of THE THE RESIDENCE OF THE PROPERTY OF THE PARTY OF THE PAR The all the rest of the first of the first of the state o the radiate that the contract the extension of the contract the California and Calabata and Action of the second and action of the second of the second of the course of the second species, we sould be ted by Fig. 7 at G.

Note 1.p.4%. Eurgundy is some years behind Ile-de-Pronce.

The case is the case of the cothedrol of Noyon, that dots

from ine middle of the 12 th century.

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Romanesque period. Assume that we divide this half dome into 5 parts (see plan A), that reserving only the sides c b d. we remove between these sides the triangles e d b, e b b, etc.; we shall have the perspective Fig. traced at B. It is clear that we can vault these vacant triangles, either by means of a round side arch C, or of a pointed side arch D, whose orown E is lower than the crown F, or by means of a pointed side a arch with its crown G on a level with f. What we have indicated in a single Fig., several years were necessary to accomplish. The high vaults of the abbey church of Vezelay are built according to Fig. C: they date from about 1190. Those of the cathedral of Paris of the beginning of the 12 th century are according to the sketch D (1180). Those of the churches of the beginning of the 13 th century are according to the sketch G. 1 As the diagonal (round) arch b d is longer than the transverse arch c d. when they desired to have the crowns of those t transverse arches at the level of those of the diagonal arches. it was necessary to adopt the pointed form of the first. as seen at H. It is ewident that on these sides retained from the dome, they have not dared to place all the weight of the compartments. The architects in leaving the crowns of the side arches at a level below that of the crowns of the diagonal arches, then thought to rest a part of the weight if the compartments or triangular fillings on the walls, and they were mistaken; but they soon recognized that this construction had its inconveniences; it tended to overthrow the side arches ou outside. This was a compromise between the antique construction and that newly introduced, that was to arrest for some t time the developments of the art of the 13 th century; besides it was simpler to regard the arches retained from the dome as resistant points, and then to resis solidly the thrust by those sides' this is what was soon done: - 1, by adopting the pointed arch for the side arches. 2, by raising their crowns to the level of the crowns of the diagonal arches, as indicated by Fig. 7 at G.

Note 1.p.434. Eurgundy is some years behind Ile-de-France, and the vaults of the choir of Vezelay correspond in construction to those (old ones) of the cathedral of Noyon, that date from the middle of the 12 th century.

The projections of the great vaults of the chorr of the ca-

carnetral of Paris that we have drawn (vic. 6) show us in E D F G s mearly squere vault, composed of two disconst THE RESIDENCE TO THE PROPERTY OF THE PROPERTY . To a to the terms of the term to halo strate book of the valles on a strate olan of see and a color of the backet of the ecise and are seed, in the area of the same on the set tal same one -1: DU lesconst the smal data to dister de balkber enconunts as a constant the constant of the constant of the constant of the construction of the season of the contract of the contract of the season of the se very public of a title same, of an examine and title very v symmet and colerate the term taker i access on the tioner To templace and named of upin se do. thankes to single each restored the no deline relates the color as sensited as margors and the state of the contraction of the con mediate transverse arch I T.

ser enen ( 1 la vise de la contraction de la con File soriable of the energial cho delegate the deliant of base visits is feet to the transfer is open a click to wiest and deed had stor builder ste . . o . amona ishouts say no whise swen say by siles of thee ; nec. sa. acts then end betailed a 1, 2 ), it that them are set of a distincted one To again as, start the lighten to be one of a described sone con and the second of the second o ed d. of d. tb d. Instead of two side arches a d. c b. were stilled for rise areas, as, as, a for responding in the pair engrapher in the vestige and action of the James at the control of the control Is remise, in Capte thouse his period and income and calles a supplied significant the file of the testing as a significant contract to the contrac and the contract from " to " and recommend and the track continuous lanchors one or I overs ent to level and control the engineer arist as the control of the control of the control of rand lare been tarner to the court tare and the best been been in these see that here there is the test to be the test of Trustalization, tello cel muser file el escon orde uso satisfied it he telepaidy codes as East sector and in the sector sat itself of the vallt.

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cathedral of Paris that we have drawn (Fig. 6) show us in B D F G a nearly square vault, composed of two diagonal arches B G, D F, two transverse arches B D, F G, an intermediate transverse arch K L, and four side arches B K, K F. D I. I G. Having the arrangement of the vaults on a square plan of the side aisles, points of support at B, K, F, D, I, G, on the one hand, and the tradition of the dome on the other, the constructors seeking to retain of that dome two diagonal sections B G. D F. on which must rest the fillings or compartments. they did not think that these diagonals must not intersect we very nearly at a right angle, if not exactly so. Thus then sp spanned two bays, resting these diagonal arches on the alternate points of support; but as much to lessen the surfaces of the fillings as to distribute their weight on all the piers. these constructors intersected this cross vault by the intermediate transverse arch K T.

Here then (8) is what that combination produced. The dome w with horizontal circular projection was still the generatrix of this wault. In fact (see the horizontal projection A), the diagonal arches ab, c d, are nothing more than sections reserved from the dome; only the walls of the nave being on the two parallels a d, c b, the intermediate transverse arch turned from the pier e to the pier f permitted vaulting each of the triangles a d g, c b g, by means of two compartments a e g. e d g, c f g, f b g. Instead of two side arches a d, c b, were obtained four side arches a e, e d, c f, f b. The perspective Fig. B explains this system. There the imaginary plan of the dome is visible. The two diagonal arches C D. E F, are its 1 last traces; the intermediate transvesse arch G H, instead of being a separate section of the dome, like the diagonal arches. has been transferred from G to G' and from H' to H. its crown attains the level of the crown I of the diagonal arches: then the skeleton being established, in the triangles remaining v void have been turned the compartments K', that rest on the diagonal arches and transverse arches, and that are traced by the side arches L. This system also offers the advantage of admitting light laterally beneath the side arches in the height itself of the vault.

But it was scarcely logical when having points of support of equal strength at a e d, to support one transveese and two d

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At A (9) is given the bockgoutel projection of one of those oreg valles; the place being at a b c d. the exes of those at a state state of the state o with the state of angele in the west for the first of the except and the leading inter a contract the state of the contract of whose northeatsh trace is given by the circle i i'i', and we agreers. The first average to the terms of the first account to each -- Ol:Fi se salren eji of si seto esona sibatina e beloinos One notes that the ourve is diven by the extrados. -- The extsecure accounts to some reviewed serves for course see in theses were notice with and in exception and interest defendable or we are a large without the control of the control o is; the score w of these size arons attains the level g of os feeran era engraninge rient Jano ce .codora lancasit con an h. Those sile arones are further the archivelts of the air the delicate of the location of the land the training and the argument of arestalance on a volume of all are all as a second ready be indicated about 1270 by a simple formula. However to end buttent och beyelone viener asm signeint leveseligge end a pul Reapple of ofer ser of publicar to excess forevers thent the extraction of the contraction of the contractio . acricumiters .una?

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diagonal arches on the piers a d, while the pier e was only loaded by a transverse arch. They about 1230 was adopted a system of building the great vaults in very oblong bays, loading equally all the piers. Thus were constructed the high vaults of the naves of the cathedrals of Amiens and of Rheims; yet the dome is the generating principle as for the preceding vaults. In the cathedral of Amiens the diagonal arches are round or very little pointed, if necessary; but in that of R Rheims the generating dome of the diagonal arches is traced on an equilateral triangle, and the drawing of those vaults is as simple as profoundly reasoned.

At A (9) is given the horizontal projection of one of those high vaults: the piers being at a b c d, the axes of those piers give starting points of the two diagonal arches a d. b c. or rather the diagonal earches are the diagonals of a rectange lar parallellogram, whose angles fall on the axes of the piers. These diagonal arches are the sections reserved from a dome. whose horizontal trace is given by the circle i j i'j', and wh whose vertical section is the pointed curve k 1 k'1'. circumscribing a triangle whose base is to its height as 13:10. --One notes that the curve is given by the extrados. -- The extrados of the diagonal arches revolved into e f g circumscribes an equilateral triangle; the extrados of the side arches revolved into h m n likewise circumscribes an equilateral triangle: the crown w of these side arches attains the level g of the diagonal arches, so that their springings are raised to m h. Those side arches are further the archivolts of the windows. Thus the results of the principle of the so-called Gothic cross vault rapidly become simplified. The drawings could already be indicated about 1230 by a simple formula. However the the equilateral triangle was rarely employed for tracing the great diagonal arches of vaults; it was rather adopted for t the side arches, whose springings were necessarily raised. (Art. Construction).

Villars of Honnecourt, 1 among his sketches traces Fig. 10, beneath which he inscribes the following legend (see text), which signifies; "By this means one makes three kinds of arches with a single opening of the compasses." Indeed with the r radius A B we trace the semicircle C B D. Setting the point of the compasses at C, with the same radius we trace the poin-

Confidente accuertates es esciciones en la fermación de la fer Last eacher of the other training to the last th the point P of torserstion bissons the ratios end sery to make the State of the service of the servic ed lin H C O sors hereico ent le areteso est . S O S sera edi on the points & A. tont divide the base C & into three sous! period to said each cards over evolute and some size of .advac sage attempt of the steadlers are no "Affile Friet "Lines construction of the following the speciments assets one cit safer riens to secons eat to emerte of the eloco estat -accord ear it agam that characters end beechs; exit ilul it and to erect a outradeal like those of Autens or of Rheins. -arb ils erie bear necestary for dramak at full size all das spicione that exel there is a street of the contract with the contract of the pull angular trees of third loans work and the limit to the the drawing and occapying little enace, yet presented or correct securacy. The Album of Villais of Foundourt indicates saverage selada culta te fir L a a littantice i tellis alanas ar out the fact that is a few to a few the few that playing anche of the track of the following the contract that the first counted and as execut armor as a first fact for a first fact of a le of the 13 th consury, wares cointed erone: :- 1, the painted aren generated by and equitatoral triangle: 2, the pointed t war y label to medicate the labeled of the first artists as the Control in ata dividing the base, on teres, four, five, six, seven or e sidol, permitted the making of a rigorous disgram, mithout i its being necessary to draw the entire helf arch. Let (11) at si :elenant faresatione on by bereashed done harriou a ad A is erroed that the radius a because the base a d; that if m to trade the couldness d to the enterest of the sile one chase the entract without the ordiner and there at I deserte to trice lives the cuts of their added for the City -or and ai aid; samenal sound cared at the interest of THE SHEE STREET AND AND SEPTEMBERS OF THE SERVICE CORP. the color of the c Pirivic of the contract of the contract of the contract of end the state of the First that the test to water the at the selection of the Co. in Classic Large Mana Section

pointed arch A C E circumscribing an equilateral triangle. Pr Dropping from the point E a perpendicular to the base line, t the point F of intersection bisects the radius A C. Placing the point of the compasses at F. with the same radius we trace the arch G C R. The centers of the pointed arch G C H will be on the points F A, that divide the base C G into three equal parts. To this arch the authors have given the name of "tiers point." (Third point). 1 Now the architects of the middle ages did not always find areas sufficiently large to be able to trace completely the diagrams of the arches of their vaults at full size; indeed one understands that when it was necessarm to erect a cathedral like those of Amiens or of Rheims. it would have been necessary for drawing at full size all diagrams simultaneously needed, an area larger than that occupied by the monument itself. They then forced to seek means for dr drawing and occupying little space, yet presenting rigorous a accuracy. The Album of Villahs of Honnecourt indicates several methods suitable for drawing voussoirs of arches without the aid of a diagram of the whole, and this lack of space for making the diagrams compelled the architects to adopt certain pointed arches traced according to a geometrical formula. T Thus these architects adopted by preference, after the middle of the 13 th century, three pointed archest - 1, the pointed arch generated by the equilateral triangle: 2, the pointed t third-point arch: 3, the pointed fifth-point arch. The tracing of diagonal arches obtained by placing the centres on two points dividing the base, on three, four, five, six, seven or e eight, permitted the making of a rigorous diagram, without i its being necessary to draw the entire half arch. Let (11) at A be a pointed arch generated by an equilateral triangle: it is evident that the radius a b equals the base a d: that if w we trace the quadrant do, the segment bo will be half the segment d b. since the equilateral triangle divides the circle into six equal parts. The crown b is then the third point of the quadrant divided in three equal segments; this is the reason that sometimes the name of "arc-en-tiers-point" (third point arch) is given to the equilateral arch, i.e., the arch whose prowe falls on the third point of the quadrant divided in three equal parts. Let B be the pointed arch to which the name of third point should be applied in preference to any ot

The property of the control of the c The the of the control of the control of the control of the east dropost from the crown of the arch on the base all divide it packs by mot intrace beating and that issues that can be parts, the first and a color of the color of the color of the was feared and to encourage of the vousanter of the santa of that the Court state and the read to the team of the area of the we take one sixth that we trans on 2'6' (Fid. C); on the base well apad giri's egrep thought a course of a secquest ordinate Fire to that the resident and the transfer of the state of the is access to the growing of the contract that and the time and a THE PERSON AND THE RESERVE OF THE PROPERTY OF THE STATE OF THE STATE OF ion of the line 'e's refusioners and driv 'e's enil ont to not which o', the draw of the corated arm. I see hears a pupple tow it a sticuture and the wine has even and some still be set printiples got gill at later to a rul for to or everiff and seems wines en an a com I that by devis of the lin acre ent lo THE STATE OF THE S - Elite was and he goes are to be also at their a thin TO LOCKETTE STORES OF THE THE STEEL STORES TO ME - with the state of the state o and appears to the state of the second of the second and are as a second of the second oth of the vouscies; we divide it into four parts; drawing from the point & sy means of a sector an angle o r a count to Last voluments as rail to sail like a . att after the end nick ew in a suil drack and to edake and the end of coint of the point v. and shall neve traced the coint list end to the pattern to form the pattern to to v p q Repartors. To draw the partern for the voussirs of the fifth poin aron represented at G. one proceeds in the same manner: only the base of the arch being divided into five sound oncing we shall take 1 1/2 of those parts to commence the operation and take 4 for radius. It was then not by chance that the constructors of the middle ages in tracing their archas, took t The dealers of the same of appropriate the of tests and account of . martial intitate this profit to be the tired into Icoto as the and out observe than the voussoirs having been out without k and to secure some out years that the territory and years and you arca, or the length of the soffit, it often happened in clos-

other, the base c e being divided into three equal parts, that base can be divided in six equal parts, and the perpendicular dropped from the crown of the arch on the base will divide it into two equal parts, then the radius f e having four of those parts, the radius f g will contain four also. Now assuming the that to trace the diagram of the voussoirs of the pointed arch B. we have only the space f B g: the base c e being known. we take one sixth that we trace on B'f' (Fig. 0); on the base B'f' from the point B'we erept a perpendicular B'g': then taking a radius f'g' having four times the length of B'f'. which is one third of the half diameter of the arch, and placing the point of the "troussequin" (triangle ?) at f', the intersection of the line f'g' with the perpendicular B'g' will give the point g', the crown of the pointed arch. W can trace a portion of the arch g'i. give the depth of the voussoirs i k'and trace the joints to one of these voussoirs. All the voussoirs of the arch will then be given by this 1 m n o, and we can by this pa tern cause thousands to be cut. It remains to trace t the keystone or rather the half keystone, since pointed arches have a join at the crown. The prolongation of the perpendicalar B"g' will give us the pattern of this half keystone, as indicated in our Fig. But we still have another means of obtaining its pattern. (See sketch D). Let the line p c be the depth of the voussoirs; we divide it into four parts; drawing from the point g by means of a sector an angle q r s equal to the angle f'n t. we shall take on the q s a distance q v equal to one of the four parts of the depth line p q: we join the point p to the point v. and shall have traced the triangle p q v to add to the pattern to form the pattern for the half kenstone. To draw that pattern for the voussoirs of the fifth poin arch represented at G. one proceeds in the same manner: only the base of the arch being divided into five equal parts, we shall take 1 1/2 of those parts to commence the operation and take 4 for radius. It was then not by chance that the constructors of the middle ages in tracing their arches, took t the centres on the base or springing line of those arches, a and as proof that their method of drawing partial diagrams. one can observe that the voussoirs having been cut without k knowing exactly the number necessary for each branch of the arch, or the length of the soffit, it often happened in close i personale present i storiu present poli

de shall see for who revens

a second for condition of the second state of the angle of the second state of the sec ouet, dives us the key to an entire system of draund arones for so entire enfice, and as in the procedure extende, allows sae making of partial distance with records accouracy, and a manufactured to on open communical wave intrinsic french neither as the years of a faither that the areas are at the and the designation of the party of the property of the party of the p SENERGIA DIEL CORP. COMO DEL CARCONICIONE DE LA LACTAR "Althoration and in a pattern a and see three with go - that THE COMPANY CASE IN SELECTIONS OF CALLS OF SELECTIONS the crystage at their statety date which we a similar separation ASSESSMENT OF THE SALES OF THE PROPERTY OF THE PROPERTY OF THE PARTY O a divious of the disneter into five. This seems to reprofe seed aractly by the fail life and one fix. 12. 10. on a tase A q TOTAL SEAS THE SELL SEAL SERVE ALL AND SOLID, MESS DISSELS. DISCOMENIAN DESCRIPTION OF PERSONS AND ADDRESS OF PARTY OF SAME AND ADDRESS OF THE PARTY OF THE who does not other to Constitute the section to being asserted. was -- Taen texing too point 3 as centre and 3 A as rediss, the since set asimple of the description from a fermion of the compasses on C and taking C 5 as ratios, the tourd senioargin 2 7 as district to July and Auditalyst and the commission of the and taking 3 2 as radius, the fourth semicifole 2 4 is drama. statule, cleated ass pater of the second relative, within \* 4 as runius, we drew the fufuh senteurale 3 4. If from the "TIMES" AND RELIGIOUS AND SAVE AND ASSESSED AND PERSONAL COLUMNS OF PERSONS ASSESSED. cles, se efect the tro perpendicalers 3 a, C b, se out tabse sommercies at a, c, b and d. Assuming that the disaponal aronse of a great recessfular valit of the nove be the round aren of watch A ? is the diameter, the transverse arches naving b a base comprising four parts or the length A'S, those transvaa & Sc fee a A dore end to sone d end to Jaranco benefit surclosing the arch, that was set a very wide half keystone or a last voussoir made thinner than the others.

Note 1.p.437. Album of Villars od Hannecourt. See the French and English editions. Plate XI.

Note 1.p.439. This name seems to us perfectly applicable indeed to that sort of arch, since the point of the compasses is placed on the third dividing point of the base. Still the equilibrateral arch is also frequently called third-point (in French). de shall see for what reason.

But a singular fig. drawn in the Album of Villars of Honnesourt, gives us the key to an entire system of drawing arches for an entire edifice, and as in the preceding example, allows the making of partial diagrams with rigorous accuracy, and wi without requiring very large areas. Plate 39 of that Album s shows us the voussoir of a third-point arch drawn according to the preceding method, and then a spiral intersected by a straight line passing through its eye. Above this sketch is read: - "By this means one cuts a voussoir of the fifth-point." The text does not refer to the drawing of that voussoir, but the presence of that spiral, drawn there as a simple memorandum, evidently relates to the drawing of arches generated by a division of the diameter into five. This sketch is reproduced exactly by the full line and our Fig. 12.1 On a base A B divided into five equal parts giving six points, from the middle c as centre is drawn the semicircle A B. -- One will note that this point C divides the division 3 4 into two equal parts. -- Then taking the point 3 as centre and 3 A as radius. the second semicircle A 5 is drawn. Replacing the point of t the compasses on C and taking C 5 as radius, the third semicircle 2 5 is drawn. Replacing the point of the compasses on 3 and taking 3 2 as radius, the fourth semicircle 2 4 is drawn. Finally, placing the point of the compasses on C and taking C 4 as radius, we draw the fifth semicircle 3 4. If from the two centres 3 and C. that have served for drawing the semicircles, we erect the two perpendiculars 3 a, C b, we cut those semicircles at a, c, b and d. Assuming that the diagonal arches of a great rectangular vault of the nave be the round arch of which A B is the diameter, the transverse arches having b a base comprising four parts or the leugth A 5, those transverse arches consist of one branch of the arch A a and of a s

ment of the same and the same of the same middle count of the cert ? 3. The transverse area will be drand by means of two ofrealer area, whose radius will be C A. -FIE AST to stated intrinct by fire a but a state of the and reter A 5 in cife ends pares. The diameter of the diagonal and beving five parts and the transverse area four (see the parties or parties of the control of waters are also the color which a labelly to the area and the and all the second of the second seco 4, to the base of the same aren 3, the hypothenuse m n or base of one of the distance arones will have 5, because one squere of die 16, of 3 is 9, so tast 16 + 9 = 27, which is the same re of 5. Then A B natura the base of the discondlaren of a v secretary read that were been not in a first that were read that and goods aven light we had a fact out to be a common of the Samerani, Josepharers of State of the Visit Victoria and the state of the contract of the contract of the contract of A B having gaven us st O the centre of the discoust scabes. AV I F VVA INSTERS OF THE RESPONDED FOR ANY OF THE CHILDS THE THE REST OF BUILDING WAS RELEASED BY THE REST AND THE REST AND THE to breco there are a some and the contact of the restrict of to the to setted the control of the control of the is the state of th D (11). If we wind to trace a narrower vealt, i.e., a veult The first of the same of the same and the same and the same copies on factorities at the man the three and the the trace I o o o. (See Fig. 11). Then the disconst aron n vill have for dismeter 4 1/2 ourts. Pass dissonal area will toen be polyard, a curve wasse dismeter is A f and centres a and the same of the sense enterested of all the finished and say eter as before A 5, and for centres e, C, and the side aron will neve as dismesser either 2 4 or 3 5, and for centres signer e C or e f: in the first case this side arch will be urayn d ach feet jest need seaseomee ent le barnede relieus e diin tricked the Matter and presented officers in the matter and indicated vill be drawn with the same obsering of the compasses. If we divide the tyrospum under the side area unto two oceanings, regions and ever the saw in a manager to dear a saw Ifin saws to me / so so this tour erous erous erious send to dess to 4, and there area will be equilameral. If the side area of the

second branch of the arch 5 a, whose centre will be e, the m middle point of the part 2 3. The transverse arch will be drawn by means of two circular arcs, whose radius will be C A. and whose centres C and e will be dividing points of the diameter A 5, in eight equal parts. The diameter of the diagonal arch having five parts and the transverse arch four (see the horizontal projection H), the side arch will have three parts. for the side arch 1 m forming a right augle with the transverse arch l n, if we give to the base of that transverse arch 4, to the base of the side arch 3, the hypothenuse m n or base of one of the diagonal arches will have 5, because the square of 4 is 16. of 3 is 9. so that 16 + 9 = 25. which is the square of 5. Then A B being the base of the diagonal arch of a v vault whose transverse arch is A 5, the side arch will haveas base 3 B comprising three parts, and we shall have drawn the diagonal, transverse and side arches of the vault with the s same opening of the compasses; the dividing points of the base A B having given us at C the centre of the diagonal arches. at C e the centres of the transverse arch, at C f the centres of the side arch. Consequently the same circular arcs serving to trace these three arches, all the patterns of the voussoirs of these arches can be cut from a single diagram or part of a diagram, assuming that we apply the procedure indicated at D (11). If we wish to trace a narrower vault, i.e., a vault where the base of the side arches is half the base of the t transvers arch, we shall then have in horizontal projection the trace 1 p a n. (See Fig. 11). Then the diagonal arch n p will have for diameter 4 1/2 parts. That diagonal arch will then be pointed, a curve whose diameter is A f and centres a are the points 3 and C. The transverse arch will have as diameter as before A 5, and for centres e, C, and the side arch will have as diameter either 2 4 or 3 5, and for centres either e C or e f: in the first case this side arch will be drawn with a smaller opening of the compasses than that used for t tracing the diagonal and transverse arches; in the second, it will be drawn with the same obening of the compasses. If we divide the tympanum under the side arch into twin openings. each will have a part of the base A B or 3 4; and the centre of each of these arches whose croun is d will be at 3 and at 4, and that arch will be equilateral. If the side arch of the

mention of the first to to the first to a first the visite of the the second of the second o sease cost it a like those the case of the sease at a first sease ore addersoon, same or same but all alle, the course of There extends to be bounded by the alien of the contract of the THE PROPERTY OF SEC OF RECEIVED AND AND ASSOCIATED SECTION OF THE PROPERTY OF Attention of whomas countries to the first of the same to be the same at the same of the s A STREET OF THE PROPERTY OF A PROPERTY OF A CONTROL OF THE PROPERTY. what the exempera , is that was the est where the liefs av accios, tada esta esta de esta de la compansa de como en como son' cach asomerate dante ac temple and a local temple to cares a variate state a solution of the volument sea it has the Linksance and the terms of be there against the decidal stated is els ital of "tire of coassocots, it is not the series of Table to Feliate, has been tended to a distribution of the same of curry with propriet and are an area, are contract from the character and to electing applicable and election as arrested to care elecrevoltable, and that to beginned and, whose diagets in the daying into love, but a flesh a size foot astivity ry smile (exciton, take in dino story as a tradition vetern on the bounder Liershey and to every bear of delines we whose a second of the termination of second to constru on, it is not bely a triver of stabilities and a real control ADDRESS. The first a distant of the bord of any of antiques AND CONTROL SIL S TO USE OF USE CONTROL CONTROL sails a real of lacerer to she of the action of agree was undesemble of the contract and the state of the state of the state of since it permits all combinations.

Note 1.p.441. The use of this Pig., that is not exploined in the French edition of Villors of Honnecourt, is of copie.

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Note 1.p.442. The dotted lines, numbers and letters mere placed by us to exploin the use of this Fig.

rectangular vault 1 n m r, having for base 3 B and for centres C f, seems to us too sharp, we can substitute for it the arch whose base is 2 5, its crown is b and centres are 3 4. Thus o one understands, that by the aid of this Fig. the bases of a all the arches of a vault always giving equal divisions known thus as the radii of these arches, they can be cut by the aid of a partial diagram occupying a very small area. And indeed. if we examine gothic churches built during the 13 th century, we shall recognize tha all the diagonal, transverse and side arches, that the archivolts, bays and galleries, etc., are d drawn by means of centres placed on equal divisions into five or six of the diameter of the circle. It seems unnecessary to insist further on the importance of the spiral fig. contained in the Album of Villars of Honnecourt, but it is not inappropriate to remark, that the rectangular vault 1 m n r. whose h horizontal projection is drawn at H, is derived from the triangle given by Plutarch as being the perfect triangle of the Beyotians, and that the transverse arch, whose diameter is A 5 divided into four, has a rise 3 a divided in 2 1/2 less a very small fraction, i.e., that it circumscribes a triangle very similar to that given by the vertical section of the great pyramid of Cheops. The pointed arch then merits some attention: it is not only a motive of stability that has caused its adoption, but also a feeling of proportion and of narmonious accord between all curves of the vaults: it is a necessity resulting from practice in tracing the diagrams; it is especially a need of liberty in the construction of these vaults. whose excellent principle one cannot too thoroughly study, s since it permits all combinations.

Note 1.p.441. The use of this Fig., that is not explained in the French edition of Villars of Honnecourt, is of capital importance in presence of the monuments. Do not forget that the old masters of works, building in very compact cities, a could not arrange workyards or areas of great extent. In theory one scarcely considers these difficulties, but in practice they have such importance, that they compel the architects that adhere to causing their diagrams to be drawn before them, to adopt methods that influence the forms adopted.

Note 1.p.442. The dotted lines, numbers and letters were p placed by us to explain the use of this Fig.

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-interest as the second of the . it is a second of the contract of the contract of the contract and incric son and he adjusted to be to sell area (descrip-former in Officeles, a distinguished course, course a prowith it confidences all their and all the confidences and the confidences and the confidences are all the confidences and the confidences are all the confidences and the confidences are all the conf o against a fire in the same of all the fire of the contract o The state of appropriate of the contract of th will forther , the free price order to be a few to the contract of 1 3 magga thorong out to , it is not to the courts to see se we are all so was a land of the release and a coldination of and the state of t - The first and the state of th active for the continue of the base of the continue of the state of the plant was larger by a color of some larger concrete again expeditious asthon. We have seen how Villags of Pengeoort & zenora betwice fereves bus bouch a guivant to ensem ent eval with the "sent opening of the compages." "Yow the Norsan vaults erecast about 1990 fraquently present an arrenfement, such t to the second the later agent the second of the second sec arealist east add nain amont ons , edlovinga.

Thus (13) let this be the norizontal projection of one of contract that the rest the contract that the rest to the transverse arch at the rest to the transverse arch at restruct 0 C. The transverse arch 0 E intersecting the distonal arches revolved in 0 E F is trailed the same with the rations of the transverse arch E actually being at the equal to the ratios 0 C, its crown F naturally being at the time.

For twenty years have been made many imitations of Gothic c construction; these imitations very rarely satisfy the eyes; this indeed is because those that erect them, further admiring much our old monuments, have probably never taken the trouble to seek therein the judicious elements. In architecture taste and feeling are much; but to depend on them it is necessary to use the compasses and geometry. One sees that by means of the firmula (12), there is but one of the pointed arches which has its centres outside its springings.

Indeed in those beautiful schools of Ile-de-France, champaone and Soissonais, the architects as men of taste felt that the last limit of sharpness of the pointed arch was the equilateral; that the centres of the branches of the arch placed outside the springings give a pointed arlh. whose extreme sm rpness is offensive, a disagreeable proportion, because the ratio of the base to the height exceeds the equilateral triangle. (Art. Proportion). But the Normans and Anglo-Normans me were less refined and sought in their construction before all else formulas, that arsume simple practical means. Thes instead of attempting as in Fig. 12, to find pointed arches of d different spans having all angles equal at the vertex. or at least nearly similar, analogous ratios between the diameter and rises, these practical peoples of the North, good constructors from the beginning, were but moderately preoccupied w with proportional ratios and choice of forms; they desired an expeditious method. We have seen how Villars of Honnecourt g gave the means of drawing a round and several pointed arches with the "same opening of the compasses." Now the Norman vaults erected about 1220 frequently present an arrangement, such t that all the arches, diagonal, transverse and side, as well as archivolts, are drawn with the same radius.

Thus (13) let this be the horizontal projection of one of these vaults, the generating arch is the diagonal arch, that is round and revolved down in A B C. The transverse arch at C revolved in A C S is drawn with the radius a b equal to the radius O C. The transverse arch D E intersecting the diagonal arches revolved in D E F is traded the same with the radius e f equal to the radius O C, its crown F naturally being at the level C of the crown of the diagonal arches. Let i K and 1 m be the thickness of the piers, the side arches being comprised

Decree W and 1. These side arears revolved in W 1 p are utill
drawn side a crius equal to the radius 0 C, seem sprintings
the side arches attain the level of the growns of the diagonal
the side arches attain the level of the growns of the diagonal
that divided by a multion, still the radius a q equal to the
radius 0 C will serve to draw the arches dividing the window.

drospt for the keysones, the drawing of a single voussoin ger fit to extelled the intiger to worlding the contract to general and and the remember of the same the termination of the same the at the letter for the formation to the state of the first and the contract of the first and the contract of the first and the contract of the a or six, with the same opening of the compasses, we can have a s ries of arcoes, 4004 diameters will be that of the secon ignist with a final sale of the last the contract of the contract area, as bares, two or one are to four, or as mune, eithe, s seven, six, etc., are to tal. Then having all the voussoirs grap and state of the second o without a liadram erect all the arches of an edifice. Phen mitted - Mind the loadest and the the time of the termination ed and the present of yearsons as as procedulating the to include if it relies but a tells vis avoited, and it was onwith the transfer and the transfer of the control o "dazadza. "delest, sil tin red to un mist dare ture og mis -until the contract the state of the contract ienation. If diastrans were necessary, this was noly for woodor persons, in salud union implife ages il agrant to the age of the same radius, the distra of the semicircle or of the . bracks that is a life of the same to a constitution -mark and needed to the ratio existent bearing of the eters of these stones and that of the semicircle to have a c 1.3 de Fi . Sif vo exche as . dose lo beineab edelonce

Note 1.p. 46. By howing to rebuild arches of Bothic voults, we hove been led to receptive this unity of curvature for wong of them in the same edifice, whatever the spans of these arches, for the curves of the spaden centres out for one seranches, for the curves of the spaden centres out for one seranches.

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between K and 1. These side arches revolved in K 1 p are still drawn with a radius equal to the radius 0 C, their springings being raised from K to V, if it be desired that the crowns of the side arches attain the level of the crowns of the diagonal arches. If these side arches serve as archivolts for the openings divided by a mullion, still the radius n q equal to the radius 0 C will serve to draw the arches dividing the window.

Except for the keysones, the drawing of a single voussoir of an arch then suffices for cutting the patterns of all the arches of the vaults, archivolts, openings, etc. And (see the sketch G) if we divide a diameter of a diagonal arch into foor six, with the same opening of the compasses, we can have a s ries of arches, whose diameters will be that of the semicircle, which is the greatest arch of the vault or the diagonal arch, as three, two or one are to four, or as nine, eight, s seven, six, etc., are to ten. Then having all the voussoirs cut on the same arc, and base or fraction of a base, we can without a diagram erect all the arches of an edifice. Then one comprehends the motive, that caused the adoption of the pointed arch called lancet: it was an economy of drawing, all complication of diagrams and patterns was avoided, and it was only necessary to give the section of each arch according to its function. Further, all being cut to the same curvature (on the extrados), they took their places according to the given designation. If diagrams were necessary, this was only for wooden centres, and again these archés were all traced by the aid of the same radius, the diagram of the semicircle or of the diagonal arch permitted the placing in line all other centres, since it sufficed to know the ratio existing between the dianeters of these arches and that of the semicircle to have a o complete drawing of each, as shown by Fig. 13 at G. 1

Note 1.p.446. By having to rebuild arches of Gothic vaults, we have been led to recognize this unity of curvature for many of them in the same edifice, whatever the spans of these arches, for the curves of the wooden centres out for one served for several; only the segment of each branch was more or less long.

One can conclude from the preceding: - 1, that the pointed a arch was at first an importation from the Orient; 2, that being adopted in the East, as a curvature given by a principle of

service at the feature great the contract to the term corne - For vice in - No substantial - 12 % o actor Actionate act - 12 out constitution, although the secure to acceptance two enunion tine to and a serious lergico est discessionado una - core and color sea color elements to looke a su este F "C JULES TO SHE SE TO THE THE TENDENT BORN OF BRIEF WILL -nivers of visits a street product a consist to there are ged notice of the following the first the thorn the contract of - Loss trains will make to catery a cutchingence act think a second we a strong for the tarriage territors not give heads of so to her at topularit say had a track to assets and that the sacrat of Paris transv value later. Wow sacrate of Farence the contraction of the contraction of the country, were now and the continue of the term where are not been been as the continue of the co use of the cointed aron, to tuese of the charen of S. Denis end of use online of Faris. I the continue to the or april eres on acord to by a selection of reach to apply the apply in to cook a tree dee Partiful issue that in the Richard efração a thras como imantes - à freini la apoliperiance le Tree to the series of the such that the series of the series of -, co to in them, continuone out to both a lost faces on a race In least the state of the case of the state of the state of architecture, that has appeared since antiquity.

Note 2.p.416. In our Entrotions sur l'orchitecture. (9 th).
Note 1.p.417. See 8 th Entrotion sur l'orchitecture et l'

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A little chapel erected on the aute of an event reducted as accoulous, or to preserve a religious remebrance. The name of oratory is also given to certain chapels dependent on the preserve of the contract o

proportion explained elsewhere. 2 this pointed arch in France was the starting point of an entire system of perfectly logical construction, allowing great liberty in application: 3. that consequently the pointed arch as a form probably belonged to the school of Alexandria and to the Nestorians, who appear first to have adopted it; but that as the principle of a new system of vaults, it without doubt belongs to our provinces north of the Loire, since in 1140 in the abbey church of S. Benis, the constructions erected by Suger allow round arches to appear only for diagonal arches, and that already is a applied the system of vaults, that we see developed in the ca cathedral of Paris twenty years later. Now nowhere in Europe nor in the East in the middle of the 12 th century, were constructed vaults having some points of similarity, like the use of the pointed arch, to these of the church of S. Denis and of the cathedral of Paris. If then the pointed arch then originated outside France as a form of arch, we were first to apply it to one of the most fruitful inventions in the history of construction. If indeed the pointed arch started outside france, we were the first who knew how to derive from that f form, the result of a feeling for proportion. 1 results of considerab e value, since thew have produced the only original architecture, that has appeared since antiquity.

Note 2.p.446. In our Entretiens sur l'orchitecture. (9 th).
Note 1.p.447. See 9 th Entretien sur l'orchitecture et l'
ort. (Proportion).

ORATOIRE. Oratory. Chapel.

A little chapel erected on the site of an event regarded as miraculous, or to preserve a religious remebrance. The name of oratory is also given to certain chapels dependent on the apartments of a castle, palace or mansion. Wen still called oratories in the middle ages small tapestry chambers erected in the great chapels of castles, and that were intended for t the castellans and their relatives.

In his Histoire du diocese de paris, 2 Lebeuf mentions certain oratories built on the places where S. Germain stopped to pray or to instruct the people. The old abbeys possessed besides the principal church, oratories erected in several places in the enclosure. To perpetuate the memories recalled by very old oratories, in 1034 were rebuilt the little chapels if S. carried of Taring with a face and distributes. On the case En Alticologic Maries, year longer by the 244 to 2 km activities - Production and the state of t ecal a sa vactore so the acet orange of all of the were a set on the contract that the fall that a contract that is THE REPORT OF THE PARTY OF THE wall of beneath to the collection of the state of the sta FIRST STEEN TO SEE SEE SEE FROM THE SECOND OF THE SECOND STEEN Turning of Polyco learned to disch cold formed or delegate from several devila, and had retarned without have been ache some one of the state of the same of the state of - m ed es caroniole of Pioner. cherlorand els caronio en esti The a great number of oretories, among which it is necessary to other than or the valley of words witherlies, entered to used to of 3. Denis, and in which was preserved the coay of Pope Alerauder, martyr, found at Poma. Past oretory was paved with nor towns a fille on youff . I this teller be one the last (12 to) occuping the oratories of F. Odilon and of F. serence seems for a select design of the serence seren middle soud dens . hoodershow lies at al . hissa ylicherone Land and the control of the state of the same of the s

Note 2.p. Mrs. Yol. I. p. 102.

20te 3.p. 187. Lebert. Vol. II, v. 428.

object that the midals area; placed under the news of a seint a aspectally venerated in the province, and dopisitory of some of his relice, that proceeded the defenses.

The is the mider of the cake of Villeseme-lea-Arithmy, the said saes an oratory of the 12 th century preserved in Equality is the of an eaclosage rebuilt in the 14 th century. Wig. 1

Pesides the caspel, common to all companions, custless hid castled and his wife. Those presonns were only swell near treat rooms usually placed in the tower. One and atmost to

It was only in the 14 to sentury work the orangers of obside

Martial at Paris, that a fire had destroyed. 3 Nost of the conasteries had their origin in merely an oratory erected in the midst of a desert and around which cenobites came to establish themselves. S. Clement thus built an oratory in applacade called Gorze near Metz, that soon became the centre of a great monastery. 4 An oratory had been erected opposite the monastery of Sennoul to deposit there the relics of S. Simeon. When he retired in his oratory at Vienne in Daupkiny, archbishop Turpin or Tulpin learned the death of Sharlemagne at Cologne from several devils, who had returned without having been able to carry off the soul of the emperor, they said, if one credits the chronicle of Richer. Charlemagne also caused to be built a great number of oratories, among which it is necessary to cite that of the valley of Moyen-Moustier, erected in homor of S. Denis, and in which was preserved the body of Pope Alexander, martyr, found at Rome. That oratory was paved with mosaio and existed till 1586. At Cluny were still preserved in the last (18 th) century the oratories of S. Odilon and of S. Bernard: i.e., the isolated cells in which those personages habitually staid. It is well understood, that those little chambers were only remarkable ofr their extreme simplicity.

Note 2.p.447. Vol. I. p. 102.

Note 3.p.447. Lepeuf. Vol. II, p. 498.

Note 4.p.447. Chronique de Bicher. Vol. II. ghop. 3.

Note 5.p.447. Chronique de Richer. Vol. II. Chap. 9.

Also certain oratories were arranged in the midst of fortresses in the middle ages: placed under the name of a saint e especially venerated in the province, and dopisitory of some of his relics, that protected the defenses.

Thus in the midst of the citx of Villeneuve-les-Avignon, one still sees an oratory of the 12 th century preserved in the middle of an enclosure rebuilt in the 14 th century. Fig. 1 gives the plan of this little chapel, and Fig. 2 is its perspective.

Besides the chapel, common to all companions, castles had one or several oratories belonging to the apartments of the castellan and his wife. Those oratories were only small retired rooms usually placed in the tower. One shut himself in there to pray, but the divine office was not performed there. It was only in the 14 th century that the oratories of castles

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the osable of and fourre a very richly decorated oracery, agass to retree them as a dirired to be oracers at too mass.

3. Onapelle at Paris the oratory from which he could see the alear throad a libble stee openind, without beind seen by the boss present. That or tory still erists, is covered by a tunal valit end is very sincis; it was probably none with table or series. On the contrary, the extremental probably decreted by fine sculptures, and is derinheated by a balustrade of Flogranies with a crimmed that the centre. An oratory is likewelises with a crimmed that the centre. An oratory is likewellers. Onapelle).

.25 g. 1. p. 29. Sound. Wist. et ontha. de la velle de Ports.

ORGUE. Organ Front. (art. Buffet).

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Canada and the design of the state of the st the bones found in the contro sted fround when new drawes are dud. Formerly all semeteries cosmosed a charnel. Sametimos. is at the commisery of the Innocents so Peris, the commet was Convenience when were in addition and order contract a pipe -verse the bones, the first number of intervents uncover ered. On the walls of courones and even beside their princip--req end to the sac yd fersical sace reases are elegron fe cars of the cionater, and in these recesses furnished with f To fix and is not taken to the second step control of the while one is indicated [1] has the Secretary of contrast of of the facede of the charce of Flearance. More frequently the Then It thinks a to buttle manual to been a shired became referent certain as extended to the alarma and all of accompleted in the interior. Pritteny still retains a very drest surver of ossumries dating from the 15 to and 16 th consurges, and man neve ust counsed to hopests boses therein; some of tnese are filled to the roof. Vaca tae bones rated by tae population of on come into the land of the land of the second

became sometimes actual little chapels in which mass could be said.

In 1365 Charles V caused to be arrenged in the chapel of the castlesof the Louvre a very richly decorated oratory, so as to retire there when he disired to be present at the mass. Mouis XI also caused to be built between two buttresses of the S. Chapelle at Paris the oratory from which he could see the altar through a little skew opening, without being seen by t those present. That oratory still exists, is covered by a tunnel vault and is very simple; it was probably hung with tapistries. On the contrary, the exterior is richly decorated by fine sculptures, and is terminated by a balustrade of Fleurde-lises with a crowned L at the centre. An oratory is likewise attached to the S. Chapelle of the castle of Vincennes. (Art. Chapelle).

Note 1.p.449. Sauval. Hist. et antiq. de la ville de Paris. Vol. II. p.22.

ORGUE. Organ Front. (Art. Buffet).

OSSUAIRE. Charnel. Ossuary.

A covered structure built in cemeteries to deposit therein the bones found in the consec ated ground when new graves are dug. Formerly all cemeteries possessed a charnel. Sometimes. as at the cemetery of the Innocents at Paris, the charnel was only a cloister under the ceiling of which were successively placed the bones, that the great number of interments uncovered. On the walls of churches and even beside their principal portals were made recesses sheltered by one end of the portico of the cloister, and in these recesses furnished with f fixed gratings were thrown the bones abounding in the sail of cemeteries. An ossuary of that kind (1) existed at one side of the facade of the church of Fleurance. More frequently the charnel formed a sort of chapel pierced by a number of small openings, through which were perceived the bones gradually accumulated in the interior. Brittany still retains a very great number of ossuaries dating from the 15 th and 16 th centuries, and men have not ceased to deposit bones therein: some of these are filled to the roof. When the bones raised by the excavation of new graves belong to the dead that can be named.

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the family encloses the skull of the deceased in a small box surmounted by a cross, and those boxes are placed on the sill of one of the numerous openings of the charnel. Fig. 2 represents a view of the ossuary of Faouet (Finisterre), that is attached to the church and looks on the cemetery.

Note 2.p.449. We one the drawing of this ossuary to y. Gau-cherel.

In the churches of the southern provinces, particularly in the Basque country, we have often seen on the exteriors of t the apses of rural churches surrounded by their cemetery, niches formed beneath the sills of the windows, in which are c carefully arranged the skulls gathered in disturbing the consecrated soil. Gellars made beneath certain parts of the church also sometimes served as charnels.

The desire to be interred the nearest possible to the church, when this could not be within their walls themselves, cansed the tombs to approach the foundations "under the eave of the roof." Charnels were then habitually placed between the buttresses of the nave as if to satisfy the usual wish of the dying. This explains why the portions of cloisters attached to churches were pierced by cells opened in recesses, a sort of cupboards on the side opposite the nave, in which were placed the bones brought to light by the sexton's spade: recesses or niches whose arrangement is given by Fig. 1. If charnels were built outside the churches, they were also necessary in the interior, for men would not wish to cast out the bones of the faithful uncovered inside. But some one must exhibit in the interior of the church only the remains of holy personages, the boxes from old and unknown interments were placed in little cellars, in certain parts of crypts, or as we have sometimes seen, in holes cut in the masonry and walled up. That custom was common among the religious, and we have discovered in repairing old walls of the abbey churches these walled recesses entirely filled with human bones, evidently coming from several bodies.

OUBLIETTES. Dungeon with trap in ceiling.

A deep excavation made under the floor or vault of a hall, into which were thrown persons, that were desired to disappear. There is no castle of the middle ages in which these are

A TOTAL TO A LAND TO THE AND THAT OF AN AREA OF A TOTAL OF ACE The transfer of the state of th Vishes of 11 to 50% included and book by files of the cooliners, as the of an include ord and be villed in the of the was at the constitute was a "tachter and arounces." TARDA (for access of the , he are are relief to the card Tau is find in the cold sold in the second is the ene sayer En Mala Back of activities in later of actual 80% Cab , while - C sees gills and it island in a 188 and 25 and and insare se alsone at the trained to settle to green at the second se to be and the base of the control of the control of the privite, alles woalt of the color of the color policy and a colored will at Endidenties which to the the .. what Tabelet had her - was tend to be and the fore promise and emphasials ear Misson account to the belief of wearns. In the feet and the consistent the fire we har feets son to endice and occurs even the same and dail correct of orribe and values col wherea w tol smidstell tip claifed while the amount of easily . astro vers sof is of the industrial too perse mean such Loos THE BUILDING TO SECTION AS AN ALEXANDER OF THE PERSON IN METERS OF THE PERSON OF THE P -- CS vest. Pool of A. V. C. . 3 6 ... Avi 1, That by interest is a favorable of the analysis of the first term to a least - st oa langrege boeg te de de de een gozat gest ele lêg gore of the state of the first of the state of th was a na soli ose i siene distribution list e cit secor , subject of Historian Carolicia de Companio de Caracia d one must redard them as very rare, and only accept them meen egon and note on any of Theistimoush lies at arcong a most and a matter tilled to "a dissillate" as testisated of testisated pit of the privide, since the sort of wall with source plan shat forms it is pierced at about mid-height by a door, that seems to be the way for removal of the sewade, unless admitteing the this foor was made to a self the condemned were alreeafy dead. As for the "oublicate" of the Pastile, it might pass for an ice pit. Here is its sestion (i). It consisted of The trade of the state of the s we have to the title of never wheels he we become affect you be . I have also a king part of a fact due a argument and the charge same wide, as the midts osing as inverted oone endied to a little

not shown, and yet we must confess that we have very rarely found dungeons to which could be given this name: generally what are regarded as such are privies, whose use is easily recognized, however unfamiliar one may be with the art of construction. (Art. Latrines). We have seen in many castles, abbeys and official buildings dungeons, but we know only three "oubliettes," that may reasonably be regarded as such. The first is found in the castle of Chinon, the second in the Bastille, and the third in that of Bierrefonds. It must also be stated that the romances and chronicles of the middle ages of ten speak of dangeons, but never of "oubliettes? We should n not be indisposed to believe that those of castle Chinon are privieu, which would reduce to two examples cited. "We must w warn our readers, says M. Merimee in the Instructions du comite historique des arts et monuments, 1 "to beware of local traditions attached to the cellars of keeps. Men too frequently give atrocious colors to the middle ages, and the imagination accepts too easily the scenes of horrors, that the romancers locate in such places. How mank cellars and storerooms for # wood have been taken for frightful dungeons! How many bones from kitchens have been regarded as the remains of victims of feudal tyranny! With the same reserve it is necessary to examine the dungeons designated by the name of "oubliettes" a s sort of well into which were lowered prisoners destined to die of hunger, or indeed they were slain by casting them from a high place, whose floor fell beneath their feet. Without placing absolutely in doubt the existence of "oubliettes" still one must regard them as very rare, and only accept them when such a purpose is well demonstrated? We are so much the more disposed to consider the "oubliettes" of castle Chinon as the pit of the privies, since the sort of well with square blan that forms it is pierced at about mid-height by a door, that seems to be the way for removal of the sewage, unless admitting that this door was made to see if the condemned were already dead. As for the "oubliette" of the Bastile, it might p pass for an ice pit. Here is its section (1). It consisted of a hexagonal vaulted room located in the substructure of one of the towers, reached by a little door communicating with a sorew stairs; all around that vaulted room was a walk 3.3 ft. wide, at the middle being an inverted cone ending in a little

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opening intended to carry away water. It is certain that an unfortunate placed in the bottom of that funnel could neither sit, lie nor stand. It must be admitted that the little f flue was a soil pipe, and that persons lowered to the bottom of that cell were placed there to give them taisure to reflect. That was a sort of prolonged torture. But this cone might be an ice pit, and it would not be the sole example of a storeroom for ice existing in a castle. Our ancestors loved cool drinks, and the little bottom drain as then well explained. As for the "oubliettes" of the castle of Pierrefonds, one cannot doubt their purpose, here is the section (2). They consist of a well excavated in the middle of a room, that was certainly a dungeon, since it contains a privy in a niche. Note 1.p. 452. Coll. d. docs. ined. sur l'hist. d. pronce.

Architecture militaire. p. 74.

One can descend into that dungeon only by a hole A pierced at the centre of its vault. He descends by a screw stairs from the ground story of the room C, that must also have served as a prison. To that room C is added a privy: it receives light only by a very small opening D. If the orifice of the "oubliette" remained open and was not closed by a trap door, one conceives the situation of an unfortunate prisoner always fearing to fall into that hole, that he could not see, since the dungeon received no light. The two openings, that of the vault and that of the oubliette exactly corresponded, and from the trap A one could cause a man to fall into the well without first taking the trouble to lower him into the oubliette. We have descended to the bottom of this oubliette: we found the wheel that served as foundation, but no trace of a human being, At B is the level of the bottom of the ditch. By excavating 6.6 ft. we made of it a well that supplies water for the needs of the castle. In the same castle exist other dangeons like this, except the well of the oubliette: in one of these dungeons we found names incised and rude sculptures on the surfaces. It is claimed that at the chateau of Blois also existed "oubliettes", but we have not been able to verify their form accurately.

OUVRIER.. Workman. Mechanic. Artizan. What was the situation of the workman on buildings in the

the state of lead targets at the state of the state of in and the execution of distinct the anticentury, was the workern free like those of our time. or did as Jest to and the control distance and a least to be a first inguaring the edv besselves a solicher etailcheitef it ince - Part let 's sale and the property of the Calaba and and and and at an indicate to the and in being a car and to it are in many Taris . . 1 30, OLLEGE IN, CAMPAGES, A 2106 01 COLUMN 13. gung abits billerty.". ... and he accepted the trainer. the season of the season was a season with the season of a la noiscemanded to after an its animore .ecofe eds to des and a second and the second second second and a second which which a sound and parameter lasts viste to some vister over reach uniother we and the avece to hearing out of the false we are it is the transmission and the state of the training we say the first and a first the second of the says who vicels lade, as that early extinct the value of the vicel ench had so geds

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rection of the mort, found biaself at the same time the regulator of the mades, assigning just as we no today, a certain cortion, valle, oter, part of a wall, to a certain journeymen.

middle ages? That question is difficult to solve. Before the regular establishment of guilds about the middle of the 13 th century, was the workman free like those of our time, or did he form a part of a corps, obeying statutes and subject to a sort of jurisdiction exercised by his paers? The stoneoutters' marks that are found on the stones of the walls of our monume ents of the 12 th and the beginning of the 13 th centuries in Ile-de-France, Soissonais, Beauvoisois, a part of Champagne, Burgundy and the provinces of the West, evidently prove that at least the working stonecutters were not paid by the day, b but by the piece. According to the mode of construction of the that epoch, the surface stones were rarely through stones, and were merely slabs of nearly equal thickness, the stone masonry being paid for to the master of works by the superficial toise (41 sq. ft.), and the cut stone including beds and joints by the toise to the workmen. Thus he marked each block on its v visible face, so that one could estimate the value of the work that he had done.

It must indeed be admitted that the workmen were free, i.e., that he could do more or less work, could be engaged or leave the yard as practised today. But about the middle of the 13 th century, when the regulations of Etienne Boileau were put in force, this mode of working must have been modified.

The workman must first submit to the statutes of the guild of which they formed a part; the wages were regulated by the masters, and each affiliated master could have only one, two or three apprentices under his orders, thus becoming in relation to the master of works what we now term journeyman having with him one or more helpers.

Then the wages were regulated by the day's work of the journeyman and helpers, and each journeyman thus became a sort of partial contractor combining in the general undertaking, on account of a wage agreed on and regulated for a certain part. Thus the stonecutters' marks are no longer seen on our monuments of the provinces of the royal domain after the middle of the 13 th century.

The master of the works, charged with the conception and direction of the work, found himself at the same time the regulator of the wages, assigning just as we do today, a certain portion, vault, pier, part of a wall, to a certain journeyman.

Note 1.p.455. All representations of the mosters of works in the middle oges show that with the free compasses of the stonecutter in hand. If we state that the master of works was necessarily a stancatter, it is indeed that the system of a limit in the architect himself to trace the diagrams for the different file or the architect. In mach the diagrams for the different section is the main the diagram of our the different condition, by the masters of works of our times. Altogether, the trade of stancester is a very hard one.

We have chanded all shal, and in our time the internationing that are considered and collection of the collection.

To are certainly civilized men, but we seculd be more so, if the second that we had been to any the dest five de sone trouche to study, we should attempt to profit by them. Thus it is very attempt to profit by them. Thus it is very attempt to a the first of the first the second as a second of the first the first the second of the intellectual ladder, but indeed the month operating and steps of the intellectual ladder, but indeed the more month reach a hierarch and seems of the anathropes, the second of the anathropes to speak only of mesonry, the standard in

This explains in the same edifice those differences in execution noted in a pier or vault, from one bay to another, certain variations in mouldings, etc. The materials being supplied by the owner, they were delivered to each journeyman after having been laid out by the master of works, for he was necessarily a stonecutter. The system of construction adopted by the architects of the middle ages compelled them to place themselves in direct relations with the workmen. And again today one cannot proceed otherwise when he desires to apply it. It naturally resulted from these continued relations between the orderer and the executor that a stamp of art is very strongly impressed on the least part of the work, like the expression of a single thought between the mind that combined and the hand that executed.

Note 1.p.455. All representations of the masters of works in the middle ages show them with the grea compasses of the stanecutter-in hand. If we state that the master of works was necessarily a stanecutter, it is indeed that the system of so-called Gothic architecture being adopted, it is necessary for the architect himself to trace the diagrams for the different members of his edifice. This fact alone explains why this system of construction is rejected, as unworthy of our civilized condition, by the masters of works of our times. Al Altogether, the trade of stanecutter is a very hard one.

We have changed all that, and in our time the intermediaries between the architect, who works in his office, and the workman that cuts the stone, are so numerous and know each other so little, that the execution is only an effaced imprint of the conception.

We are certainly civilized men, but we should be more so, if instead of manifesting a profound disdain for the institutions that we know badly, and that give us some trouble to s study, we should attempt to profit by them. Thus it is very certain that in the middle ages between the master of the work and the workman was not a great distance, that now separates the architect from the final executors; it would certainly not be the architect, who would find himself placed lower on the steps of the intellectual ladder, but indeed the workman would reach a higher step. To speak only of masonry, the manner in which the diagrams are understood by the stonecutters, the i

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In our time one carpaneers form one only oudy, that has reordanized and have rebelled inthiative; but the cercaneer does
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In our time the carpenters form the only body, that has retained the spirit of the workmen of the middle ages. They are organized and have retained initiative; but the carpenter does not wish this. They are united on the yard, very submissive to the knowledge of the chief, when they have properly recognized him, but perfectly disdainful for his incompetency if that is proved, which does not take long. And among building workmen the carpenters, who have known how to maintain their ancient organization are an average of the most intelligent and best instructed.

Men have occupied themselves with the workmen for several years: thinking to ensure their well-being, to find asylums for their old age: the material side of their existence is sensibly improved. But for the building, men are perhaps not sufficiently occupied with their instruction, with improving the methods. The system of competition certainly presents great advantages and also has its inconveniences; it tends to debase the workmanship, to cause the employment of incapable men in preference to skilful men, because the former accept lower conditions of wages, or indeed because they perform in less time and more badly, it is true, the required worm. That is not a means of improving the moral condition of the workman. The work yards opened at several points in France for the restoration of our old edifices of the middle ages have been nurseries of skilful workmen, because in those yards perfection in workmanship is a condition inherent in the work. All that is to be considered, but what is necessary is instruction for the building workman; the system of guilds exists no longer, and it would be necessary to replace it by a system of applied instruction. While waiting, the architects on their work yards can exert a very salutary influence on the workworkmen the they entloy, if they will take the trouble to o cause the interest of the contract t

ind of Volume VI.

workmen that they employ, if they will take the trouble to o occupy themselves directly wit the work entrusted to them, a and if the do not disdain themselves to explain to them the means most suitable for obtaining perfect execution.

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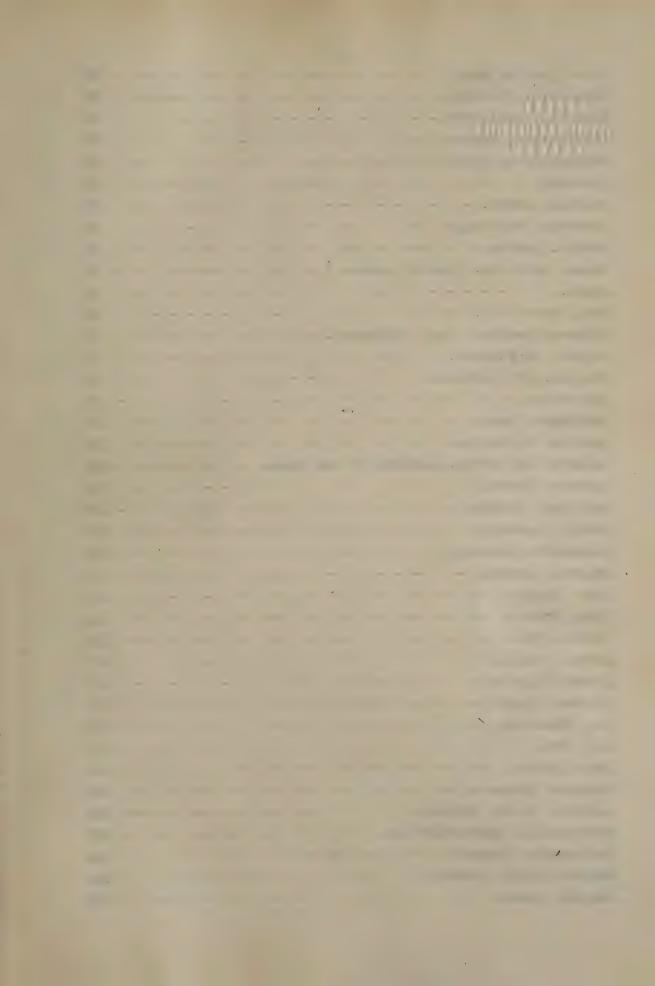
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